

JULY 1956

CCJ COMMERCIAL CAR JOURNAL

A CHILTON PUBLICATION

THE MAGAZINE FOR TRUCK AND BUS FLEET OPERATORS



in this issue

The "Eucs" That Never Wear Out
Inspection—Vital Tool for Shooting Par
How to Meet ICC Brake Regs

Power-Dome more than a name

... proves real gas saver, reduces upkeep, too ...

How Chrysler Engineering Cuts Truck Operating Costs



by
**Jim
Byers**

When a new truck engine that promises more MPG and lower upkeep comes along, that's *news*.

But, naturally enough, fleet operators prefer not to go overboard in their praise of such new developments until they've proved them in actual operation.

That's the story of Chrysler Corporation's radically different Power-Dome V-8 combustion chamber, introduced in the 1954 Dodge C-1 series.

From the start, fleet men were agreed it looked great "on paper", but had to wait for a *factual* answer to the all-important question, "Will Power-Dome actually increase gas mileage, actually reduce maintenance costs?"

The answer to that question, after well over two years of service in fleets of all types the country over, seems to be an unqualified "Yes".

Owners of Series C-1, and the current C-3 Dodge V-8 trucks report remarkable gas savings and unusually low maintenance costs. They say they not only get more MPG (on regular fuel), but find engines maintain power and efficiency far longer than those of standard design.

In layman's language, here is how Chrysler engineers were able to give Dodge short-stroke V-8's these cost-cutting characteristics:

First, let's study the diagram below.

You'll notice, among other things, that the standard, wedge-shaped combustion chamber (Fig. 1) has corners where carbon can easily collect, whereas the Dodge Power-Dome chamber (Fig. 2) eliminates such power-stealing carbon hot spots.

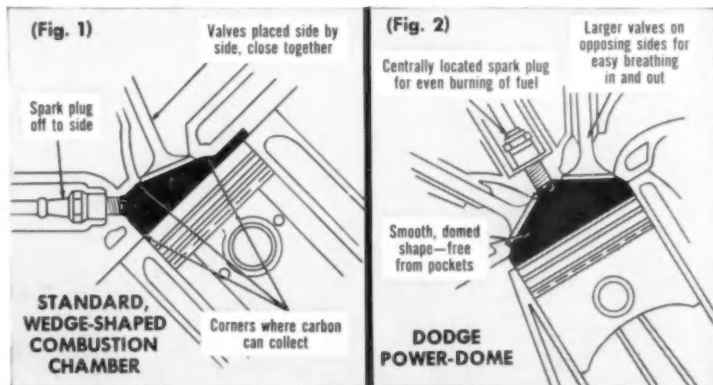
Next, notice the spark-plug location. In the Power-Dome design, it is centrally located, instead of off to one side. Flame travel, therefore, is uniform to all parts of the chamber; thus the fuel mixture is burned faster, more evenly, and more completely.

Valve placement, too, is unusual. In the Dodge Chrysler-engineered power plant, intake

and exhaust valves are located on opposing sides. This permits use of larger valves for easier engine breathing, elimination of fuel waste.

In addition to Power-Dome, Chrysler engineers have incorporated other features in Dodge truck engines that contribute to their unusual operating economy. Among a number of such advancements not found in most competitive makes are floating oil intake, ceramic fuel filter, positive exhaust valve rotators and dual exhaust system as standard equipment.

In fact, Chrysler engineers have made "fleet economy" their theme throughout the designing of today's Dodge Job-Rated Trucks. The result is a full line of trucks any cost-conscious fleet operator would be wise to investigate before investing in a replacement or adding to his fleet.



An advertisement for DODGE TRUCKS—the make with the Forward Look



Courtesy of Mack Baking Co., Bangor, Me.

New Economies and Style, too !

These distinguished New Bodies by Grumman *more than* "Pay for Themselves thru Savings." They are beyond comparison — structurally superior, lighter in weight, more dent resistant and more corrosion resistant due to their thick, light, heat-treated aluminum alloy panels and Grumman's 26 years' experience in aerotype construction. They weigh so much less than steel bodies of equivalent load-space that the savings of gasoline, tires, brakes, clutches, springs and of bearing wear and the strain on the engine and cooling system are substantial.

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wide (64" high full-opening wrap-around rear doors available on option); the E-Z-Eye Safety-glass area of our panoramic windshield is now 3 $\frac{5}{8}$ " higher for increased visibility in traffic controlled by overhead lights. All these and no increase in prices as yet.

Maybe you have been a price buyer shopping for the lowest first cost. These Grumman Bodies are an even greater bargain—they reduce operating and maintenance expenses so that you get back your entire investment. Ask your nearest Ford, Chevrolet, Dodge or GMC dealer for catalog and prices, or write us at once.

The tighter competition gets, the more you need the economies of Bodies by Grumman—that weigh *less*, dent *less*, corrode *less*, depreciate *less*, last *longer* and resell for *more*.

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THIS MONTH'S FEATURES

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Around-the-clock vehicle utilization is all-important in mining operations and maintenance has to keep pace. Here's how a Jones & Laughlin fleet in northern New York does it

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Edward Marcinski, maintenance manager at South Suburban Safeway Lines, tells how he meets Transit Pars by combining bus inspection and repair into one operation

How to Meet New ICC Brake Requirements 73

This 5-page special report gives expanded comment on the equipment and "plumbing" required, illustrates and describes typical valves and systems to meet the new regs

Professional Standards for Safety Men..... 78

Here's the why, what and how of the National Committee for Motor Fleet Supervisor Training's new program to give safety men recognized standing through certification

Know Your Bearing Failures..... 80

Walter Thill, assistant chief engineer, Federal-Mogul-Bower Bearings, discusses their causes, what to look for to recognize them, how to correct them in your fleet

SAE Reviews Truck and Bus Problems..... 90

From the Society's Summer Meeting, here is a timely roundup on what fleets are doing about field testing of parts and equipment, brake failures, use of retarders



ON THE COVER . . .

We live in an "iron age," and behind the thousands of iron and steel products in everyday use is a fleet of trucks most people never see. Once in service, they seldom again appear on the public highway. Yet they make a vital contribution to the nation's economy on a 'round-the-clock, 'round-the-calendar basis doing jobs similar to the one described in this issue beginning on page 66.

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EPA

NBP

COMMERCIAL CAR JOURNAL

with which is combined Operation & Maintenance

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JOURNAL

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Use of aluminum components makes possible weight split of 5625 lb on front axle, 5230 lb on rear tandem of new unit

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Portrait of a truck making a left turn



● (one mile away)

When the car behind
can't see anything
else, he'll spot
a gleaming Yankee
turn signal lamp.



Low cost
Thin-A lamps



Heavy duty
reflector
type lamps



Low maintenance
sealed beam
lamps

Yankee offers you 36 different sets of Class A Type I
Truck Turn Signals...the world's most complete line.
Send for complete catalog of fleet safety accessories.
YANKEE METAL PRODUCTS CORP., Norwalk, Conn.

CAMERA PROVES

How Full-Depth AIRFOAM seating increases driver-efficiency, cuts costs



MULTIPLE-EXPOSURE PHOTO of truck cab with *ordinary* seat and back cushions, vehicle in motion. Note how drags and jars are *amplified* as transmitted to driver. Also, time-lag in seat-spring motion causes driver to bounce up when driving controls are coming down—and vice versa. Driver's reflexes automatically try to compensate—which cramps muscles, frazzles nerves, drains driver-efficiency. Naturally, seat and back cushion life is considerably shortened.



SAME CAB, AIRFOAM seats and backs.

Note how AIRFOAM (with over half-a-million fresh air cushions to each cubic inch) *muffles* and *absorbs* drag and jar, instead of transmitting them to driver. Also, being all one piece, AIRFOAM *distributes* driver's weight over entire seat and back areas, keeping his lesser motion in closer harmony with that of driving controls. Results: Fresher, happier, more efficient drivers—seat and back cushions that seldom, if ever, wear out!

..... Goodyear, Automotive Products Dept., Akron 16, Ohio

You can specify Full-Depth AIRFOAM seats and backs as original equipment on any truck!

But be sure it's

Airfoam MADE ONLY BY **GOOD YEAR**
The World's Finest, Most Modern Cushioning



Airfoam—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

THE OVERLOAD

E D I T O R I A L C O M M E N T

This Time the Brake Regulations Are For Real

EVENTS OF the past two years leading up to the publication of the new Interstate Commerce Commission emergency brake regulations (June, page 17) have been a bit breath-taking. Behind the printed pages of the new document has been a very literal outpouring of blood and sweat and toil and tears. It has come from individual manufacturers and users and in large measure from the associations and the ICC itself.

Yet there are a few, remembering the short-lived proposed regulations of last December, who ask—*isn't this where we came in?* Will these, too, be short-lived? Is it only an interim report that may again be revised downwards? The answer is pretty generally conceded to be an unqualified no! Here's why.

In the December version of the regulations an attempt was made to go the whole hog. In spelling out an axle-by-axle protection plan the authors were long on theory, short on practicalities. It *looked* like a good idea. Most of the vehicle manufacturers believed it could be done. But the average user took one look at the diagrams, dreamed up mental images of the plumbing needed for field installations, and threw up his hands in horror.

Next came the long and arduous testimony. It funneled in from users, from independent brake suppliers (some of them left out in the cold) and from a few of the major manufacturers. 'Twant right, 'twant fair, they hollered and the cumulative effect of the regs could be dangerous as well.

Finally another long series of conferences led

to the rules themselves. They were issued by ICC, but with the definite help and guidance of all concerned. This time they appear to be good rules, generally on a vehicle-by-vehicle basis. Oh yes, they are vague in spots. But that is part of the act. ICC wanted the requirements to be specific, but the methods of compliance left open to American ingenuity.

It also wanted the door left open for further study, for a series of carefully controlled tests, and the possibility of still more effective rules at some future date. Only to that degree are the current rules of the slightest bit interim in nature. If there are to be new requirements, they will be strengthened rather than weakened. There is specific thinking in many circles, that if more rules are to come they should be for new vehicles only.

We've gone into this background for just one reason. But it is important. Don't be caught in the trap that maybe this is where you came in, that maybe in a few months all will be forgotten. It just isn't in the cards! The new rules are specific, even though the options are wide.

You can get some help from COMMERCIAL CAR JOURNAL'S special feature beginning on page 73. It's been carefully gone over by our engineering advisors. There will be more help coming, both from CCJ and your suppliers. While there may be a few postponements of effective dates, some of the deadlines are already here. Others are just around the corner. The time to get rolling (and stopping) by full compliance with the regulations is now.

Bart Rawson
Editor

HOW TRUCKERS LENGTHEN MILEAGE ...REDUCE COSTS

By lubricating chassis parts with *Texaco Marfak*, fleet operators everywhere make more hauls between overhauls. *Texaco Marfak* seals itself in the bearings, provides top protection against wear and rust for extra hundreds of miles. It won't pound or squeeze out, no matter how rough the going. You get longer parts life, lower maintenance costs.

In wheel bearings, *Texaco Marfak Heavy Duty's* "sealing-in" action wards off dirt and moisture for thousands of extra miles. It assures longer bearing life and safer braking — with no seasonal change required.

If you prefer *just one lubricant* for all chassis, wheel bearing, water pump and other grease lubrication, use *Texaco Marfak Heavy Duty Special 2*. This lithium-base, multi-purpose lubricant pumps easily, lubricates effectively—

regardless of the thermometer. It resists water washing, lasts through the toughest service.

MORE THAN 625 MILLION POUNDS OF TEXACO MARFAK HAVE BEEN SOLD

In diesel or heavy duty gasoline engines, use *Texaco D 303 Motor Oil HD*. It assures clean performance, free rings and valves — *more power with less fuel over longer periods* between overhauls.

Use *Texaco Universal Gear Lubricant EP* in differentials and transmissions — they'll last longer, run smoother.

Find out how Texaco can help *you*. Contact a Texaco Lubrication Engineer soon. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

Truck on Phoenix-Los Angeles Highway
near Quartzsite, Arizona.



TEXACO



Lubricants and Fuels

FOR THE TRUCKING INDUSTRY

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500 H.P.



Here's why so many fleets use Sealed Power Sleeve Assemblies

Use of Sealed Power Sleeve Assemblies is improving performance, cutting down costly overhaul time and increasing the profitable on-the-road time between overhauls for value-wise fleet owners everywhere.

These Sealed Power Assemblies for all popular makes of truck engines are engineered for each specific installation. Sleeves, pistons, piston pins and rings are all Sealed Power's own manufacture, quality-controlled from start to finish.

In every case, the factory-matched units in the assembly are designed on a basis of complete familiarity with the engine in which they are to be used. Because sleeve, piston, pin and rings are all exactly right for the job, and factory-matched, you save much valuable shop time.

Have your shop superintendent contact your nearest Sealed Power distributor for complete details on the savings possible with Sealed Power Sleeve Assemblies.

SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST FOR RE-RING!

BEST FOR RE-BORE!



Sealed Power KromaX
Piston Ring Sets



Sealed Power FX Pistons



Sealed Power
Cylinder Sleeves



Sealed Power Valves



Sealed Power
Water Pumps



CCJ AT YOUR SERVICE

TIMELY NOTES ON MAINTENANCE AND OPERATION by MURRAY SIMKINS, Managing Editor

Engine Shutdown

A BASIC RULE of good engine operation, stressed by Harvester's "Fleetaid," concerns the importance of engine idle 3 to 5 min before shutting down. This few minutes' idling allows the lubricating oil and water to carry heat away from the iron masses.

The larger the engine, the greater the need for this idling period and, of course, the length of the idling period should somewhat follow the size of the engine in order to overcome gasoline percolation in the carburetor and to avoid seals or like features of an engine being damaged by rising heat.

On turbo-charged engines it is most important to practice this rule as the bearings and seals are subject to the high heat of combustion exhaust gases. While the engine is running, the heat is carried away by the circulation of air, oil and water. When the engine is stopped without an idle period, the temperature of the turbo-charger may rise as much as 100 deg above that reached during operation. The resultant extreme heat may cause seized bearings or loose oil seals in turbo-chargers.

Transit Men Discuss Maintenance

THE MAINTENANCE heads of at least 50 transit companies met recently in Baltimore to kick around some pressing maintenance problems. Some of their comments and suggestions may help others in selection of equipment as well as bus and truck service. Here's what went on, maintenance-wise, at the last American Transit Assn. meeting:

Brake Squeal—Brake squeal is caused by out of round drums or any other factor which reduces proper drum to lining contact. The noise appears at the end of the stop because of the reduction of pressure on the drum—permitting vibration to be set up in the assembly. Manufacturers emphasize, however, that so many factors enter into squeal that individual vehicles must be studied before effective remedial steps can be taken. One operator had gone to a spiral ground drum which had reduced ten-

dency to squeal appreciably. Another had resorted to the use of fluids on the shoes, a practice which had reduced squealing tendency to some extent.

Brake Diaphragms—Only about three operators out of 50 replace brake diaphragms on a mileage basis. Most of those present replaced the diaphragms only when inspection showed the beginning of deterioration. Top mileages ranged from 60,000 to 80,000 miles.

Spit Valves—Automatic air tank drain valves are generally considered inadequate although some operators are using them right across the fleet. Some found trouble with freeze-up during cold weather operation, others pointed to leakage after contamination with foreign material. It appears that much of the dissatisfaction stems from improper installation practices. Before the operator blames the valve, he should check with manufacturers for recommended location for the unit. When some properties swear by automatic drain valves, it seems strange that others cannot make them work.

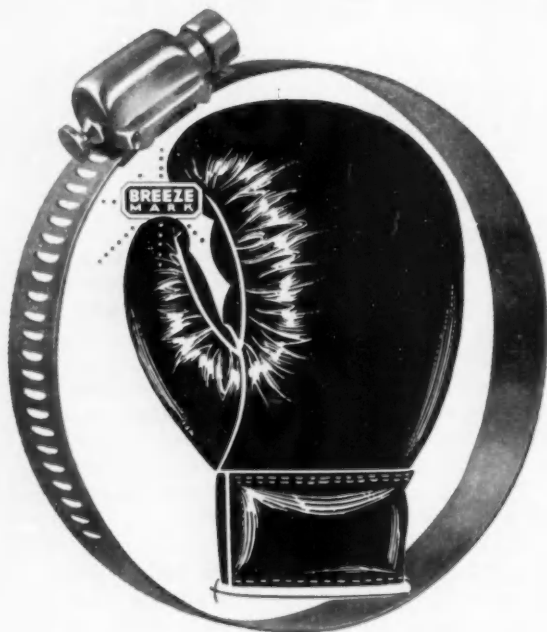
Oil Change and Crankcase Analysis—Experience from a large property indicates that analysis of the crankcase oil can be an important cost saving instrument when properly used. This company uses the spot type check to determine when to change oil. After installation of the program they were able to double the oil mileage on diesel coaches—upped change periods on gasoline buses by 50 per cent. The important factor in this program is that there is absolutely no damage done to the engine since contamination, dilution, acidity and oil deterioration can be caught before engine parts are affected.

Inspections—An interesting discussion centered around the use of hostlers to aid in checking of coaches preparatory to service. One property holds the hostlers responsible for checking the condition of the coach while they are bringing it in or during the fueling operation.

(TURN TO NEXT PAGE, PLEASE)



Continued from Page 9



champ clamp

... is what they call AERO-SEAL Hose Clamps! The new quick-attach JET or REGULAR win all bouts with vibration, corrosion or competition. These smooth, wide, stainless steel bands never pinch or damage hose. The precision worm gear tightens with even pressure all around. You get a tight seal that stays put — won't snap open until you want to remove it. And it's re-usable over and over. Widest range of sizes for cars, trucks, tractors and industrial uses.

Insist on genuine AERO-SEALS for complete satisfaction, bigger profits, happy customers. Ask your jobber.



and AERO-SEAL REGULAR WORM GEAR HOSE CLAMPS

BREEZE CORPORATIONS, INC.,
700 LIBERTY AVE., UNION, N. J.



They check on the brakes by checking the amount of air required for application. They check the clutch, operation of instruments and for any possible engine noises. Steering, lights, windshield wipers, and similar components are checked as the bus is being moved. While it is being fueled, a close look is taken at the engine. Thus, by the time it is refueled, the hostlers have a pretty good idea as to what is required in the way of service. When troubles are found, the hood compartment door is raised, and the coach must not be moved until the trouble is repaired. At first glance this appears to be loaded with problems, but then again, a properly trained man can tell in a few short minutes whether a coach is ready for the road. Much of course depends upon the skill of the hostlers (or the ability of the fleet superintendent in training them). In any event it's working out for one property.

Cleaning Practices—Another property has installed a unique system of cleaning both interiors and exteriors of coaches at its several garage locations in a large Eastern city. This company uses a roving team of nine men to visit all garages during the course of the day. They do nothing but clean and wash—usually covering about 26 coaches per day. During off periods, they may touch up wheels with paint, but their primary purpose is keeping vehicles clean. According to the fleet super, specializing in this way saves time and provides for better control of appearance.

Fageol-Leyland Conversions—The trend toward change-over of the gasoline buses to the Leyland diesel is still going strong. One property reports completion of its conversion program—with 60 diesel units which have now accumulated 2,173,000 miles. They report a fuel mileage averaging 7.365 mpg, an appreciable saving over mileages obtained on gasoline buses. Cost of conversion varies from \$3000 to \$3700 and approximately 200 man hours are involved.

Another property with 5 conversions to date reports an improvement in fuel mileage from 2½ mpg to 5½ mpg. While the costs appear high, most properties figure that the savings in fuel and in longer engine life will justify the initial expense. In fact one property ex-

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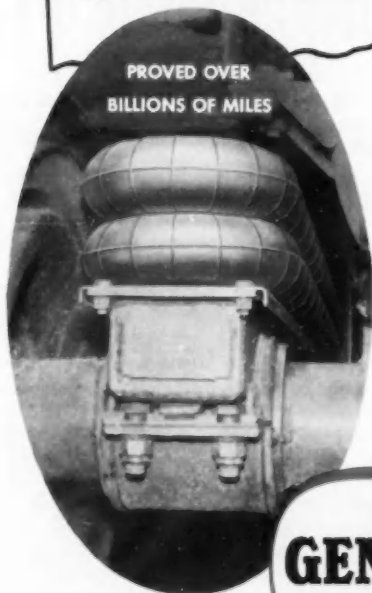
CONSOLIDATED FREIGHTWAYS ADVISES:

This is one of 200 trailers equipped by Consolidated Freightways with cost-cutting General Air Springs.



"Planning to order 150 additional trailers . . . all to be equipped with **GENERAL AIR SPRINGS**"

PROVED OVER
BILLIONS OF MILES



Member of T. T. M. A.

**THE
GENERAL
AIR SPRING**

"Our maintenance costs on General Air Springs," writes Mr. E. B. Ogden, Superintendent of Maintenance for Consolidated, "have been so low we've made no attempt to figure them." Consolidated too, is highly pleased with the improved ride and resultant cargo protection afforded by General Air Springs. Learn today the numerous ways in which General Air Springs can aid your fleet operation.

*Like Consolidated Freightways . . . specify
General Air Springs on new equipment*

THE GENERAL TIRE & RUBBER COMPANY • AIR SPRING DIVISION • Akron, Ohio

CCJ

AT YOUR SERVICE

Continued from Page 10

pects to write off the original costs within a three-year period.

Diesel Fumes—Diesel fumes still raise an ugly head although from all indications operators are well familiar with the causes and the cures. Use of No. 1 diesel fuel was recommended for transit properties as a cure for fluting of sleeves and broken injector tips—factors which cause smoke. It is common knowledge that frequent attention to the injectors is a must in smoke control. Here again, however, experience differs widely, leaving no room for specific recommendations with regard to injector replacement. Some properties are getting 150,000 miles without changing injectors, while others experience troubles at 25,000. Like many other mileage figures, service must be tailored to the operation.

Along this line one property is presently using a catalytic type muffler in an effort to

placate city fathers. It is felt that this unit will reduce exhaust fumes and thus improve public relations—regardless of whether the transit coaches are the prime offenders in this smog controversy. If the oxy-catalyst type muffler works out without increasing back pressure and at a reasonable cost, others will be installed in what is primarily a public relations campaign.

Bearing Modification Tip

WHEN REBUILDING engines in the Chrysler line where used in trucks or taxi cabs, an engine rebuilder has been using copper lead bearings. To prevent the rear main seizing in the center, or the wide smooth portion, he has cut a straight groove at rear of the supply hole about 5/32 in. wide all the way around the bearing and this has solved the problem completely. The wall thickness has been maintained the full length of the bearing.

Hot Iron Repairs Bus Upholstery

BUS OPERATORS often have the problem of small repair to cuts, tears and burn holes in coated-fabric seat upholstery. Here's a 6-

(TURN TO PAGE 14, PLEASE)



-first choice for dependability!

Contractor chooses Gar Wood-St. Paul dump bodies and hoists for 50-truck fleet on Patapsco Tunnel job

To speed work on the approach for Baltimore's new Patapsco Tunnel, Eastern Contractors, Inc. works a 50-truck fleet two grueling 10-hour shifts per day. For day-in, day-out dependability, Eastern's superintendent Mike Marcellino specified Gar Wood-St. Paul equipment on all units. Each rig hauls and dumps 30 loads of fill per shift, takes the shock of shovel loading 20 hours a day.

On big jobs everywhere, Gar Wood-St. Paul equipment is delivering the payloads contractors need, when they need them and at a lower net cost per payload hour. Design makes the difference! Gar Wood-St. Paul dump bodies are stress-tested to put strength where it's needed, eliminating excess weight. Strong-Arm hoists are designed for greater stability and faster, safer dumping regardless of grade or load distribution.

Get all the facts about the most dependable, most advanced line of truck equipment on the market. Call your Gar Wood-St. Paul distributor, or write to: Customer Service Dept., Gar Wood Industries, Inc., Wayne, Michigan.

GAR WOOD INDUSTRIES, INC.

Wayne, Michigan • Richmond, California

World's Easiest Hoist to Maintain

• Can be completely serviced with ordinary truck tools!

• Exclusive tie-rod cylinder design speeds up inspection, maintenance or repair of cylinder!
• Precision-machined hydraulic pump easily serviced in field by average truck mechanic!



EXTRA MILEAGE AT NO EXTRA COST

Lee Super DeLuxe Highway Tire is built to take extra recaps, too!

Here is a *regular-price* truck tire that is making original mileage and recap records all over the country.

The Lee Super DeLuxe Highway has a wide, flat-contour tread compounded of best-grade Smoked Sheet natural rubber for maximum mileage. The tread design provides excellent traction and is engineered to prevent small cuts from growing into long tread cracks.

Its carcass has Lee's special Lubri-Cushions — thin sheets of rubber between every ply. These lubricate the plies, reduce internal friction, and protect against bruise breaks by equalizing flexing strain over the entire road impact area.

Extra-strong, extra-tough Super-Tensile Cord assures greater protection against impact damage and blowouts. The cords are all treated by the exclusive Lee Flexlok Process, which minimizes tire growth and makes cord separation from the rubber bond practically impossible.

The Lee Super DeLuxe Highway is available in Super-Tensile rayon or nylon cord. It's an outstanding truck tire buy.

The complete Lee line, shown below, includes a tire which will lower *your* operating costs by giving longer life, more recaps. Let us prove it to you.





Worker spraying foam on large truck. Note how detergent adheres to truck. Oakite No. 511 Foam Unit in foreground.

Lather your fleet clean!

With the modern Oakite Foam Unit, you can lather your trucks clean in a matter of minutes. Simply apply a thick sudsy coating of Oakite detergent with the new Oakite Foam Unit. A little light brushing where necessary — then a cold water rinse — and your trucks are again ready for the road.

It's the foam that does it. Thick, lathery foam that clings everywhere, allowing plenty of time for dirt-penetrating Oakite detergent to work. Rich, soil-softening suds that carry away every trace of road soil and grease in the rinse water. With the Oakite Foam Unit, the average truck can be cleaned in less than 15 minutes.

Why not call your nearby Oakite Technical Service Representative for a free demonstration? See for yourself why fleet owners the nation over enlist Oakite service for more economical cleaning results. Oakite Products, Inc., 52G Rector Street, New York 6, N.Y.



Export Division Cable Address: Oakite

Technical Service Representatives in Principal Cities of U. S. and Canada

CCJ AT YOUR SERVICE

Continued from Page 12

step repair procedure suggested by Samuel Moore & Co., Mantua, Ohio, using "Koroseal" repair paste:

1. Cut an area of upholstery to be used as a top patch at least $\frac{1}{2}$ in. larger all around than the damaged place to be repaired.
2. Spread a layer of "Koroseal" repair paste on the underside surface of the top patch.
3. Place the top patch over the damaged area and set it in place by finger pressure.
4. Place a sheet of cellophane over the patch and then a piece of sandpaper over the cellophane. (The sandpaper aids in keeping the grain finish over the patch.)
5. Apply a flatiron (400 to 450 deg F) to the patch for 30 sec. Only slight pressure is necessary since heavy pressure will squeeze the paste from between the patch and the upholstery.
6. Remove the flatiron and allow the patch to cool completely before removing the sandpaper and cellophane.

Magnetic Drain Plugs

MAGNETIC DRAIN plugs are recommended by Timken. The company says that throughout the life of the axle it is desirable to collect and remove small metallic particles, which result from natural wear, by using magnetic drain plugs in the axle housings.

The magnets must be of sufficient strength to attract and firmly hold the particles under all operating conditions. It is recommended that plugs used for this purpose have magnetic elements with a minimum pickup capacity of 6 ounces.

Spare clean plugs should be kept available to permit rapid replacement at regular intervals. The plug-change schedule can be established by making periodic examinations of plugs in use.

Truck Selection Guide

A SIMPLIFIED RAPID-INDEX catalog has been devised by the Chevrolet Motor Division to enable a retail salesman to prescribe a truck for virtually any hauling need within a matter of minutes. With the aid of this compact 150-page booklet, known as the "Truck Selector," a salesman can quickly make selections from among a wide variety of models and options to get the vehicle the customer wants.

Troubled by short spark plug life?



"No more plug trouble," reports Charles L. Pulford, maintenance supervisor of J. E. Faltin Motor Transportation, Inc., of Manchester, N.H. Faltin's 130-truck fleet tried other plugs, is now 100% Champion.

Fleets prove Champions with new electrodes last over 3 times as long!

Pulford says Faltin trucks cover 4½ million miles yearly in New England, New York and New Jersey; change Champions at 14,000 mile PM check. Fleet includes 78 Macks, 10 Whites, 8 GMC's, 5 Diamond T's. Formerly got only 3 to 4 thousand miles from set of plugs.

Are short-lived spark plugs burning up part of your profits? Then try new Champions, with the Powerfire electrode that stands up far better under today's tough operating conditions.

Champion Spark Plugs with this great new electrode deliver full power and performance over 3 times as long as ordinary electrode plugs, according to reports from fleets that were having plug trouble caused by high engine temperatures in sustained heavy-duty operation.

In fleet after fleet, service records show that new 5-rib Champions are best for modern high-power engines—best for all hard-working engines. The Faltin fleet, for example (see illustrations), reports a gain in plug life from a former 3 to 4 thousand

miles with ordinary electrode plugs, to a money-saving 14 to 16 thousand miles with new Champions.

Let new Champions help you solve some of your maintenance and profit problems. Next time you install plugs, make sure they are 5-rib Champions, the best spark plugs you can buy.

LOOK FOR
THE 5 RIBS



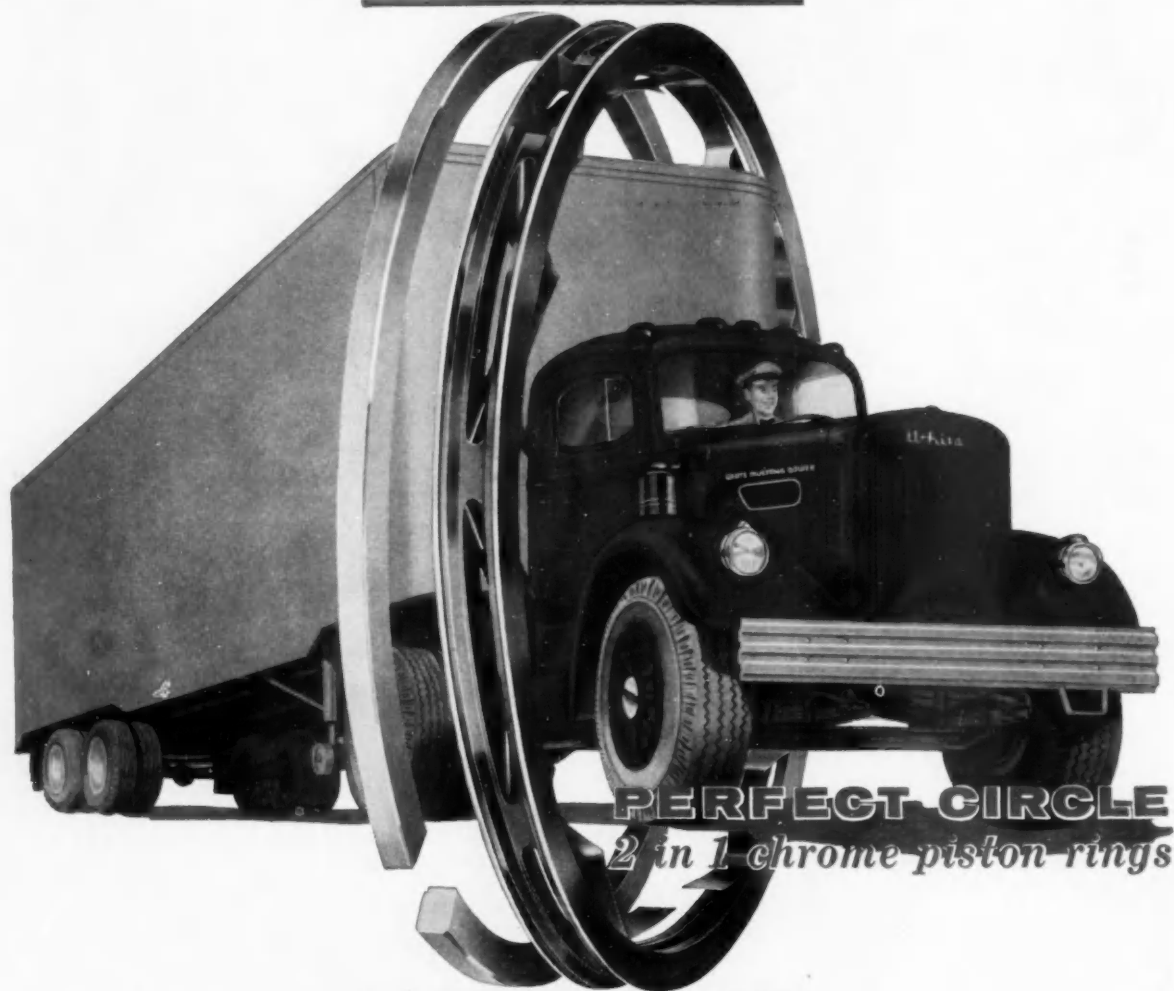
CHAMPION SPARK PLUG CO.
Toledo 1, Ohio

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SPARK PLUGS



DESIGNED
FOR
HEAVY DUTY



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ENGINES

White...one of the leading engine manufacturers using Perfect Circle chrome rings for both original equipment and service requirements.



UP FRONT WITH CCJ

JULY, 1956, FLEET HIGHLIGHTS AS REPORTED BY COMMERCIAL CAR JOURNAL

MR. EXECUTIVE, As you read this, the nation should be gearing-up for one of the largest highway building programs in history. Late in June, the Senate and House passed and President Eisenhower signed into law the federal highway bill of 1956. It provides a 13-year program to build a 41,000-mile Interstate Highway System currently planned to cost about \$28 billion (90 per cent federal and 10 per cent state financed). It also authorizes an average of \$1.7 billion a year for the next three years (on a 50-50 matching basis) for primary, secondary and urban highways.

TAX INCREASES and increased revenues from existing taxes are expected to finance the program. In addition to higher levies on fuel, new vehicles, retread rubber, tires and tubes, the bill levies a tax of \$1.50 per 1000 lb annually on total weight of trucks and buses having a "taxable gross weight" (April, page 17) of more than 26,000 lb. Also included in the bill is a size and weight freeze of 18,000 lb on single axles, 32,000 lb on tandem axles, 73,280 lb GVW and a 96-in. width limit unless state limits in effect July 1, 1956, are greater. Provision is made in the bill for changing these limits if recommended by the Bureau of Public Roads following the AASHO Road Test (see below).

AASHO ROAD TEST committee met last month at the test road site, LaSalle, Ill. Decision was made to include an additional test loop for lighter vehicles, such as passenger cars of 3000 lb. This drew protest from user groups on the basis that no road could be built without making provision for at least maintenance, effects of climatic conditions, snow plow and other types of heavier truck equipment. It was pointed out that test results from such an alleged basic road could be misleading to legislators considering taxation on the basis of the incremental theory. The Committee also amended the axle weights to be tested. Plans now call for testing of 12,000, 18,000, 24,000, and 30,000-lb single axles and 24,000, 32,000, 40,000 and 48,000-lb tandem axles.

LEASING REGS affecting duration and compensation of leases scheduled to go into effect July 1, 1956, have been postponed by the Interstate Commerce Commission. Reason was that it seemed likely that S898, the so-called Leasing Bill, would be enacted into law before the expected adjournment of Congress late this month. At press time, the House was ready to vote on an amended version of the bill which would exempt (1) farm and cooperative association vehicles and (2) private carrier vehicles used regularly to transport products manufactured from perishable commodities (defined in Section 203-b-6 of the Interstate Commerce Act) from the proposed leasing regulations.

DETROIT DISPATCH

BRAKE REGS. ANNOUNCED by ICC late in May (June, page 17), did not catch the makers without components designed to meet the new rules (see the special 5-page report in this issue beginning on page 73). However, there were reports of a shortage of check valves, and the effective date of this section of the regs has been changed to Jan. 1, 1957.

REPLACEMENT PARTS PRICES HAVE been quietly trending upward and—with higher wages certain for the steel industry—probably will continue to climb. Even so, parts prices have not increased as much as many other commodities. One large vehicle manufacturer estimates they have gone up about 55 per cent since 1946, about half the percentage rise for new vehicles.

TRUCK TIRE PRICES PROBABLY will not go up in the near future but chances for any decrease have been dimmed by indications of the size wage

package unions are expected to demand from the rubber companies. The higher labor cost is estimated to about offset a 20¢ per lb dip in natural rubber prices since December and the recent reductions on nylon and rayon cord.

AUTOMATIC TRANSMISSION FOR large trucks may be available soon on makes other than GMC and Chevrolet, which already have them. GM's Allison Division (maker of Chevrolet's Powermatic) has offered the transmission to other truck builders.

RETARDERS ARE causing some concern among axle manufacturers. They indicate that they would have to make a thorough analysis before approving use of the units on present axles. They point out that gearing now provides for adequate strength on the drive side but is not designed to take the heavier strain imposed on retarders on the coast side. Actual force exerted by the retarder may be two or three times

WASHINGTON RUNAROUND

MORE ROAD CHECKS ARE probable following the poor showing of over-the-road vehicles in ICC's early May nationwide safety regulation compliance check. It showed 90.8 per cent of vehicles checked (7021 out of 7734) had some violation of the safety regs. For example: service brakes—656 vehicles, airlines—1142, drivers' logs—3541, doctor's certificate—2448, stop lights—1750, tires—333, and so through the some 58 items checked. More defects were noted on non-certified carriers than on those with ICC operating authority, and also more on leased vehicles than owned equipment.

FREQUENCY OF further safety checks depends on funds allocated by Congress. At press time, it seemed likely that increased appropriation to the ICC would permit the addition of at least 22 new safety inspectors.

TRANSPORT POLICY REVISION hearings have concluded for this session of Congress, and reports are no action will be taken before adjournment.

MOTOR CARRIERS ARE urging passage of HR525 this year. This bill, still in a House Commerce Committee subcommittee at the end of June, would repeal authority for Section 22 rates for government freight.

PIGGY-BACK OPERATIONS ARE being challenged by ATA. The Association's Executive Committee has asked for legal action to contest the ICC's finding (in Docket No. 31375) that the services involved in the through movement of a loaded trailer from shipper to consignee via flatcar in piggy-back service is rail service that requires no ICC motor carrier authority. In another move, the Committee seeks to participate in a pending "substitute for rail service" application for the purpose of urging the ICC not to allow extension of piggy-back service by the use of contract haulers except upon regular proof of public need for the motor service involved.

PIGGY-BOAT PROPOSALS BY American-Hawaiian Steamship Co. have

that put through the drive gearing by the engine. It may require axle modifications involving increased size of gearing, altered disposition of bearings, perhaps an entirely new design.

TUBULAR AXLE FOR use on air suspension trailers and certain special models has been designed by Fruehauf. It has the same spindles, wheel bearings, brakes as conventional I-beam axles. Advantage for air suspension use is that torque is transmitted through the axle beam. Also, it is better suited for special tread jobs, such as auto haulaway, because length can be varied merely by using a longer or shorter tube.

STUDEBAKER NOW offers an overdrive transmission on its 1-ton, V-8 engine trucks. It's a 5-speed unit with mechanical shift, uses a .798 to 1 gear ratio, the same as used on Studebaker's 1½ and 2-ton models (½ and ¾-ton models use a .700 to 1 automatic overdrive).

been altered. Instead of some 500 truck-trailers, the company has obtained Maritime Commission OK on 10 ships fitted to handle 516 23-ton cargo containers each. The containers would be equipped with wheels, slide into place on tracks laid on the ship's decks and cargo spaces.

WHITE MOTOR CO. HAS renewed its \$50,000 grant to the ATA Foundation. Says White, "We are pleased to continue our part . . . and several new programs are under consideration."

GOVERNORS CONFERENCE WAS meeting in Atlantic City, N. J., at press time. As might be expected in an election year, major emphasis was on politics and presidential candidates. Another subject more directly affecting fleet operation likely to be discussed was reciprocity. Of particular interest are the two recently concluded regional pacts, the western "Vehicle Registration Proration and Reciprocity Agreement" and the southern "Eleven State Reciprocal Agreement . . ."

TRUCK TONNAGE

INTERCITY GENERAL truck freight during April was up less than 1 per cent over April, 1955, reports ATA's Research Dept. However, for the first quarter 1956, tonnage was up 7.9 per cent over the first quarter last year, with ATA's tonnage index for the first quarter standing at a new high of 188. (See page 94 this issue for detailed first quarter tonnage figures.) Regions registering the greatest tonnage gains in April, 1956, as compared to April, 1955, were Northwestern — up 7.9 per cent, Mid-western — 7.5 per cent, New England—6.7.

Month	% Change from Previous Month	% Change from a Year Ago
April, 1956	- 5.2	+ 0.9
3 Months, 1956	....	+ 7.9
March, 1956	+ 0.8	+ 1.4
February, 1956	- 1.0	+12.7
January, 1956	+ 3.4	+12.9
12 Months, 1955	....	+13.7
December, 1955	- 6.3	+11.9
November, 1955	- 0.9	+17.0
October, 1955	+ 1.5	+18.2
9 Months, 1955	....	+14.0
September, 1955	+ 1.2	+17.0
August, 1955	+21.3	+20.9
July, 1955	-11.6	+ 8.7
6 Months, 1955	....	+14.2
June, 1955	- 0.9	+13.2
May, 1955	+ 0.2	+22.0

TRUCK AND BUS PRODUCTION

Make	For Weeks Ending				Total Jan. 1 to June 16, '56
	June 16	June 9	June 2	May 26	
Available	9	7	7	7	194
Chevrolet	6,901	6,796	5,649	6,322	153,724
G. M. C.	1,826	1,849	1,597	2,212	49,206
Diamond T	....	102	76	102	2,239
Divee	74	80	64	80	2,019*
Dodge and Fargo	1,533	1,905	1,617	1,848	42,127
Ford	5,575	6,160	4,832	5,790	146,725
Four Wheel Drive	21	23	23	23	901*
International	2,331	2,707	2,117	2,739	66,562
Mack	299	252	328	453	8,768
Marmon-Herrington	19	17	8	3	210
Reo	79	90	62	79	1,777
Studebaker	311	334	96	333	7,423
White	379	357	237	363	9,106
Willys	1,304	671	561	1,295	26,396
Other Trucks	219	165	93	128	2,719
Total—Trucks	20,659	21,443	17,389	21,774	555,095
Buses	81	83	83	119	2,047
Total—Trucks and Buses	20,740	21,526	17,472	21,893	557,142

* Through June 9 only. Source: Automobile Manufacturers Assn.

IN THIS ISSUE

There are five pages of comment on the new **ICC BRAKE REGS** and description of equipment available to meet the requirements. It begins on page 73.

SAFETY MEN will find a complete report on the proposals to set professional standards for fleet safety directors, supervisors and driver trainers on page 78.

Fleet maintenance men comment on **BRAKES** and **RE-TARDERS** in this report from SAE's Summer Meeting. Also there's a summary of what fleets think about **FIELD TESTING** parts and supplies. It starts on page 90.

A **BUS** fleet tells how it combines inspection and repair to get more miles between checks on page 70.

The Road Ahead



CONGRESSIONAL INVESTIGATION OF highway accidents got underway last month with the appointment of a 5-man subcommittee of the House Interstate Commerce Committee. Their mission will be to study the factors involved in traffic deaths—such as speed, intoxication, unsafe vehicles, inadequate traffic laws, poor highway conditions—to try to determine what steps the federal government should take to reduce fatal highway accidents.

PIGGY-BACK TRAILER WITH both highway and rail wheels is being tested by the Chesapeake & Ohio Railroad. For rail use, the units couple together like a Talgo-type train and need no flatcar. According to some engineers, the double set of wheels represents dual maintenance as well as added weight that could cut payload. Estimated cost is about \$1000 more than conventional semi-trailers.

OHIO TURNPIKE TOLLS DROPPED last month in an effort to increase revenues on the toll highway. It is reported as a temporary move due to expire Sept. 30, 1956, could be extended beyond that date if sufficient truck traffic is attracted to the toll facility. Overall average rate per mile for a 60,000 lb GCW combination is 5.3¢ as compared to the former rate of 7.3¢. New rates are also subject to a 10 per cent discount on a monthly volume of \$2000 or more.

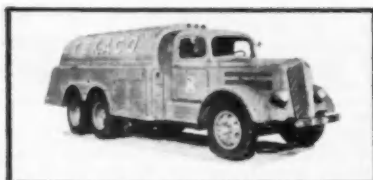
AIR SUSPENSIONS ARE due for heavy emphasis this fall and next year. Some trailer makers offer them now, expect an increase in sales. GMC will have it on three road tractor models starting about October. At least one high-priced passenger car will have it in 1957 with most of the others expected to adopt it on 1958 models. Goodyear is working on a passenger car version that fits like a tubeless tire. Rim-like plates on axle and frame grip a wire-reinforced bead on the air spring. Air spring is installed "deflated," seals-up tight when air is added.

DECEMBER WILL be S-D Month this year, climaxed with S-D Day on Dec. 31. Mark it on your safety calendar now, start your planning early.

LUBRICANTS FOR atomic engines are being investigated. Standard Oil of California says it has some synthetic lubes (polypropane oxide-types) whose wear properties actually improve when subjected to atomic irradiation.

PRODUCTION DATA FOR April shows a decline in truck, bus and original equipment tire sales as compared to April, 1955. On a basis of totals for the first four months, however, the only decline from 1955 is in replacement tire sales.

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Truck Trailer Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires					
									Replacement Shipments		Original Equip. Shipments		Inventory End of April	
	April	4 Months	April	4 Months	April	4 Months	April	4 Months	April	4 Months				
1956	82.7	291.5	82.4	336.9	6.4	22.6	360	1261	766.9	2623.2	430.2	1736.9	3483.0	
1955	79.1	262.0	110.2	325.4	6.4	22.1	501	1101	638.7	2267.5	469.2	1539.9	2692.5	



2500 gallon gasoline tank — 14,000 lbs. payload — 31,600 lbs. gross weight.



110 kegs, 200 lbs. each—22,000 lbs. payload—35,000 lbs. gross.



Side view showing complete unit installed at Truactor factory.

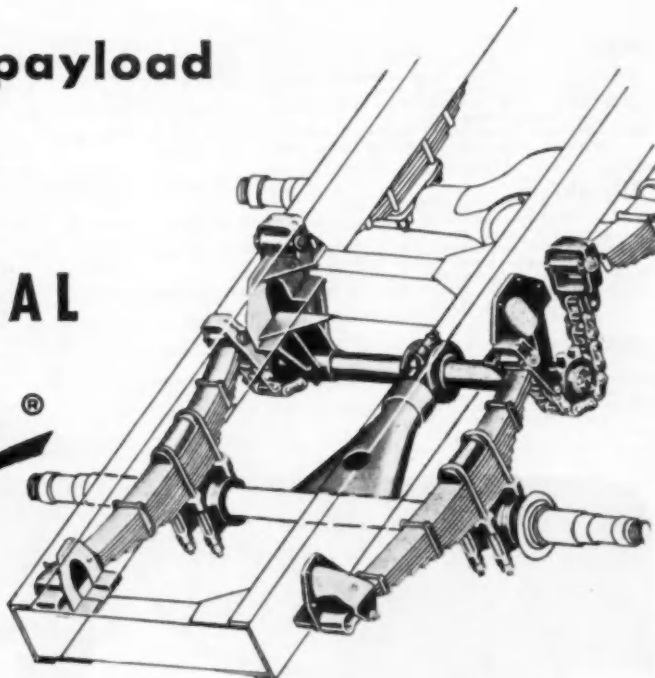
*

FROM EVERY ANGLE IT COSTS YOU LESS

to double your payload

with the NEW UNIVERSAL

Truactor[®] Kit



The cost of doubling the payload capacities of your 4-wheelers has been reduced all along the line by the introduc-

tion of this "Do-It-Yourself" trailing 3rd axle kit. The New Universal Truactor Kit provides *all* necessary parts to in-

stall a standard 5" round 18,000 lb. trailer axle on any medium or heavy duty two axle truck or tractor.

Yet look at the savings it offers:

***LOW INITIAL COST**—The list price of the kit is only \$750.00

***LOW-COST INSTALLATION**—Installation is simple and can be done in any service garage.

***MINIMUM MAINTENANCE COSTS**—Truactor quality construction and exclusive features have been retained throughout, including: brake torque arm eliminating axle hop, rubber mounted axles for easy ride, chain-and-sprocket load divider for flexibility and smooth get-away, towing yoke in combination with slipper springs for true axle tracking.

This model was developed to make available to truck opera-

tors, truck dealers and manufacturers branches, quick service,

quality product and low cost, wherever third axles are needed.

For further information contact

THE TRUACTOR CORPORATION

P. O. Box 120, Westfield, N. J. Dept. CCJ

Safety IS NO ACCIDENT — Truactor 6-Wheelers ARE SAFER!

DATES and DOINGS

JULY

- 17—New England Bus Assn., Annual Summer Outing, Springfield Country Club, Springfield, Mass.
18-20—Truck-Trailer Manufacturers Assn., Summer Meeting, Edgewater Beach Hotel, Chicago, Ill.
25-26—National Conference State Association Managers, American Trucking Assns., Mark Hopkins Hotel, San Francisco, Cal.

AUGUST

- 5-8—Movers Conference of America, American Trucking Assns., Annual Meeting, Chicago, Ill.
6-8—Society of Automotive Engineers, National West Coast Meeting, Mark Hopkins Hotel, San Francisco, Cal.
6-10—National Teen-Age Road-e-o, Washington, D. C.
20-21—North Dakota Motor Carriers Assn., Annual Meeting, Hotel Prince, Bismarck, N. D.

SEPTEMBER

- 1-3—Mississippi Transport Assn., Annual Meeting, Hotel Buena Vista, Biloxi, Miss.
10-11—Wisconsin Motor Carriers Assn., Annual Meeting, Lake Lawn Resort Hotel, Delevan, Wis.

- 12-13—Central Motor Freight Assn., Annual Meeting, Conrad Hilton Hotel, Chicago, Ill.
12-14—National Assn. of Motorbus Operators, Annual Convention, Drake Hotel, Chicago, Ill.
13-15—Indiana Motor Truck Assn., Annual Meeting, French Lick-Sheraton Hotel, French Lick, Ind.
17-19—Industrial Relations Dept., American Trucking Assns., Annual Industrial Relations Forum, San Francisco, Cal.
17-20—American Transit Assn., Annual Meeting, Sheraton-Jefferson Hotel, St. Louis, Mo.
17-20—Tri-State Truck Roadco (Pennsylvania, New Jersey and Delaware), Farmers' Market, Route 40, south of Wilmington, Del.
19-21—Michigan Trucking Assn., Annual Meeting, Hotel Pantlind, Grand Rapids, Mich.
20-21—Tennessee Motor Transport Assn., Annual Meeting, Patten Hotel (convention headquarters) and Read House, Chattanooga, Tenn.
20-22—Automotive Parts Rebuilders Assn., Annual Convention and Trade Show, Edgewater Beach Hotel, Chicago, Ill.
20-22—Idaho Motor Transport Assn., Annual Convention, Challenger Inn, Sun Valley, Idaho.
20-22—Pennsylvania Motor Truck Assn., Fall Meeting, Galen Hall Hotel, Wernersville, Pa.
20-22—Virginia Highway Users Assn., Annual Convention, Hotel Roanoke, Roanoke, Va.
27-29—Kansas Motor Carriers Assn., Annual Meeting, Hotel Broadview, Wichita, Kan.

OCTOBER

- 4-6—Montana Motor Transport Assn., Annual Meeting, Finlen Hotel, Butte, Mont.
5—Iowa Motor Truck Assn., Annual Meeting, Hotel Savery, Des Moines, Iowa.
7-10—North Carolina Motor Carriers Assn., Annual Meeting, Hotel Carolina, Pinehurst, N. C.
10-12—Society of Automotive Engineers, National Transportation Meeting, Hotel New Yorker, New York, N. Y.
11—Motor Transport Assn. of Connecticut, Annual Meeting, Hotel Statler, Hartford, Conn.
14-17—National Defense Transport Assn., Annual Convention, Hotel Newhouse, Salt Lake City, Utah.
17-23—Regular Common Carrier Conference, American Trucking Assns., Waldorf-Astoria Hotel, New York, N. Y.
18-21—National Truck Roadco, American Trucking Assns., Belmont Plaza Hotel and Kingsbridge Armory, New York, N. Y.
21-26—American Trucking Assns., Annual Convention, Waldorf-Astoria Hotel, New York, N. Y.
21-24—Executive Committee, American Trucking Assns., Waldorf-Astoria Hotel, New York, N. Y.
22-23—Virginia Passenger Bus Assn., Annual Convention, Patrick Henry Hotel, Roanoke, Va.
22-26—National Safety Council, Annual Safety Congress and Exposition, La Salle Hotel (Commercial Vehicle and Transit Safety sessions), Chicago, Ill.
29-31—Truck Body and Equipment Assn., Annual Convention and Exhibit, Sherman Hotel, Chicago, Ill.

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HAWKINSON TREADS

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A
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TO SUIT
YOUR
NEEDS

- RUN COOLER • LAST LONGER
- GIVE BETTER TRACTION
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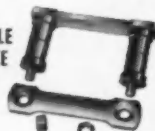
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To make a profit you've got to keep your trucks on the road and out of the repair shop. That calls for dependable Chrome Control Leak-Proof piston rings and McQuay-Norris parts. They're built to last!



CHROME CONTROL

LEAK-PROOF

PISTON RINGS

This set will outperform any other piston ring set in the "hard-to-hold" jobs regardless of kind, design or price.



McQUAY-NORRIS MANUFACTURING COMPANY

ST. LOUIS — TORONTO



**Wagner's Rigid Quality
Control means**

BETTER BRAKES...SAFER TRUCKS

Wagner brake parts quality control inspectors check brake springs for a uniform thickness of two-thousandths of an inch . . . for uniform outside diameter and overall length measurements. Under a given pressure, a spring must compress a gauged distance or it is rejected.



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1891

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*...the best known
name in brake service*

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • CoMoX BRAKE LINING • NoRoL • AIR HORNS • AIR BRAKES • TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

You can do a better job faster when you use

Wagner Lockheed®

BRAKE PARTS

whenever you install **WAGNER LOCKHEED BRAKE PARTS**, you can be sure
they'll be exactly right for the job because at Wagner
all brake parts must stand up to really tough inspections...

THIS IS WAGNER RIGID QUALITY CONTROL!

The extra care taken in the manufacture of *all* Wagner Brake Parts makes your maintenance work easier, and assures genuinely safe brakes. Even the smallest parts are given careful tests.

BRAKE RETURN SPRINGS, for example, are very important to good brake operation. The master cylinder return spring keeps air from being sucked into the braking system after the driver's foot leaves the pedal. Wheel cylinder return springs must maintain uniform pressure at each wheel to allow the brakes to work together. *All* Wagner brake springs are exactly right for their job because they all have to meet the same high standards.

The Wagner line of hydraulic brake parts is the most complete on the market. Every make and model vehicle is covered. Parts are available individually or in factory sealed kits. Your Wagner Jobber can make quick delivery on Wagner Lockheed Brake Parts, Brake Fluid and Wagner CoMaX Lining.

Wagner Electric Corporation

(Branches in principal cities in U. S. and in Canada)

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Please send me a free copy of Hydraulic Brake Service Guide HU-411.
I understand there is no obligation.

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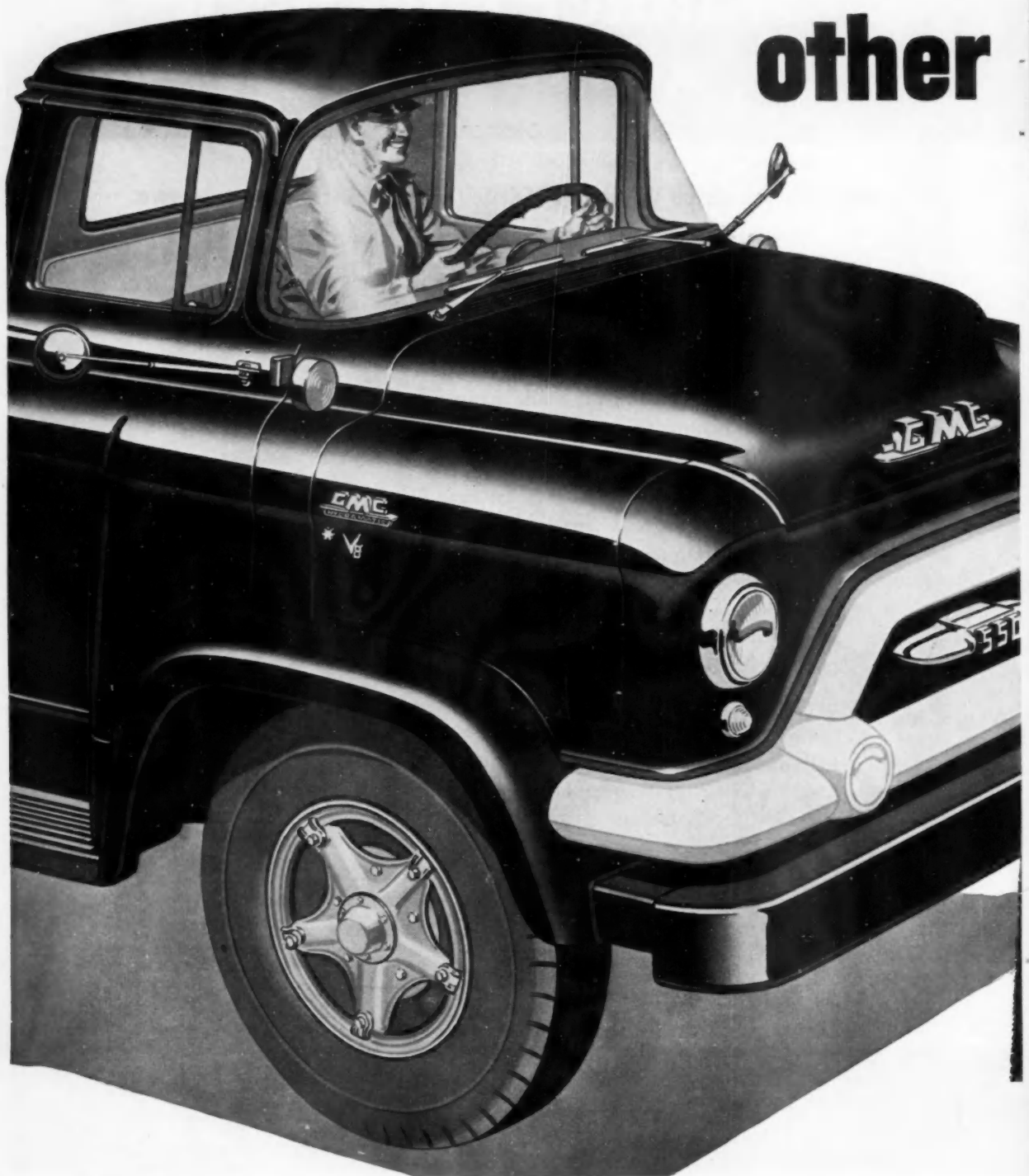
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P56-4B

Just match GMC's new other



F550 against any 50,000 GCW truck!

It hauls up to 1,040 lbs. more payload—outclasses competition in feature after feature—yet sells for hundreds of dollars less!

HERE, in simple facts and figures, are the spectacular advantages that GMC's new F550 tractor has over comparable trucks.

As the chart shows, it has the mightiest engine—delivers the highest torque. It's free of load-robbing dead weight.

It has the heaviest front axle. It has the biggest brakes. Its springs are longest. It has oversize tires.

What's more, the F550 has GMC's unique dual-purpose cab—as short as a c.o.e. but with the smooth ride and easy

engine accessibility of a conventional. That lets you haul a 35-foot trailer in *any* state!

And only a GMC offers Hydra-Matic*—the only automatic transmission proved over billions of miles.

All the more amazing, then, that this great new GMC should be hundreds of dollars lower than most competitive trucks in its weight class. Get the whole story—now—at your GMC dealer's.

*Hydra-Matic standard on some models; optional at extra cost on others.

	COMPETITIVE EXAMPLES			
	GMC F550	TRUCK A	TRUCK B	TRUCK C
TRUCK WEIGHT (lbs.)	6,765	7,805	7,530	6,560
HORSEPOWER	210	165	130	190
TORQUE (ft. lbs.)	320	308	275	306
AUTOMATIC TRANSMISSION . .	YES*	NO	NO	NO
FRONT AXLE (rated lbs.)	9,000	7,500	8,000	7,000
BRAKING AREA (sq. in.)	504	487	492	485
REAR-SPRING LENGTH (in.) . . .	56	54	46	52
TIRE SIZE	10-22.5	9-00/20	9-00/20	10-22.5

GMC TRUCK & COACH—A General Motors Division



JACK COLE *cuts trip time 20%*

...with FULLER Semi-automatic ROADRANGER® Transmissions

It's now 24 hours instead of 30 from Birmingham to New York and 26 instead of 32 hours from Birmingham to Philadelphia. Jack Cole Company's new fleet of 43 GMC 860 diesel tractors equipped with Fuller 10-speed semi-automatic R-96 ROADRANGER Transmissions have cut 6 hours off each trip.

Says Jack Cole, President of Jack Cole Company, Birmingham, Alabama: "Our Fleet Supervisor, O. B. Johns, Jr., insisted on the ROADRANGER Transmission for the new tractor to get the ability needed for faster trip time."

Fuller ROADRANGERS provide extra ability with:

- Easier, quicker shifts—10 forward speeds with short 28% steps between ratios
- One shift lever that controls all 10 forward speeds
- No gear splitting — 10 selective gear ratios evenly and progressively spaced
- Higher average road speeds — engines operate in peak hp range with greater fuel economy

- Less driver fatigue—1/3 less shifting
- Range shifts pre-selected — automatic and synchronized
- Space-and-weight-saving economies — the most compact 10-speed transmission available
- Transmission weight under the cab—permitting more cargo to be carried on the payload axles

To shorten trip time—to cut maintenance costs—to give *your* drivers complete control of every driving condition, specify Fuller semi-automatic ROADRANGER Transmissions.



FULLER MANUFACTURING COMPANY
TRANSMISSION DIVISION • KALAMAZOO, MICH.

Unit Drop Forge Div., Milwaukee 1, Wis. • Shuler Axle Co., Louisville, Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch, Oakland 6, Cal. and Southwest Dist. Office, Tulsa 3, Okla.

The Engineer's Report

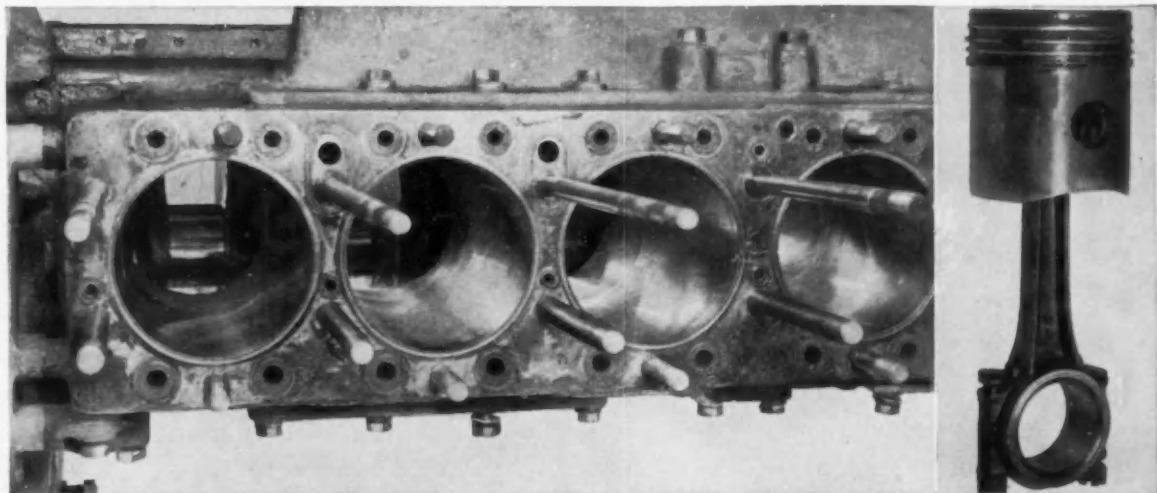
CASE HISTORY

LUBRICANT

RPM Delo Oils

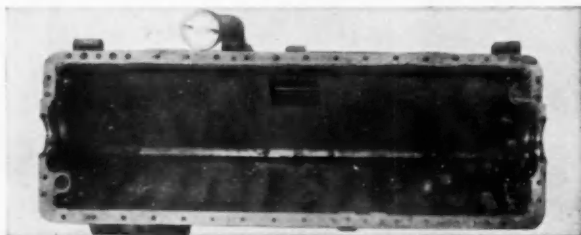
*Boise-Winnemucca Stages Inc.,
Boise, Idaho*

Cylinder wear only 0.006" after 228,413 miles!



USING RPM DELO SPECIAL LUBRICATING OIL, this 180-H.P. Fageol engine went 228,413 miles without repairs of any kind, in a bus owned by Boise-Winnemucca Stages, Inc. It ran in intense summer heat and sub-zero winter temperatures on the line's

regular route. Wear on cylinders measured only 0.004" to 0.006" and crankshaft journals were still factory standard. All rings were free, all bearings good and pistons showed no varnish. There was no measurable wear on crankshaft or wrist pins.



REMOVED FOR FIRST TIME, oil pan shows no deposits, clean metal is visible after draining. RPM DELO Oils reduce wear and keep engines clean in all of the buses owned by Boise-Winnemucca Stages.

FREE FOLDER tells you about all the RPM DELO Oils and how they meet every heavy-duty engine condition. Write or ask for it today.

FOR MORE INFORMATION about petroleum products of any kind or the name of your distributor, write or call any of the companies listed below.



How RPM DELO Oils reduce wear, corrosion, oxidation in all heavy-duty engines



- A. Contain special additives that provide metal-adhesion qualities...protect parts whether hot or cold, running or idle.
- B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring sticking. Detergent keeps parts clean...helps prevent piston scuffing.
- C. Special compounds stop corrosion of any bearing metal and foaming in crankcase.

TRADEMARK "RPM DELO" REG. U.S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20 • STANDARD OIL COMPANY OF TEXAS, El Paso
THE CALIFORNIA OIL COMPANY, Barber, New Jersey • THE CALIFORNIA COMPANY, Denver 1, Colorado

When our bearings are ready to go— we take one more look!

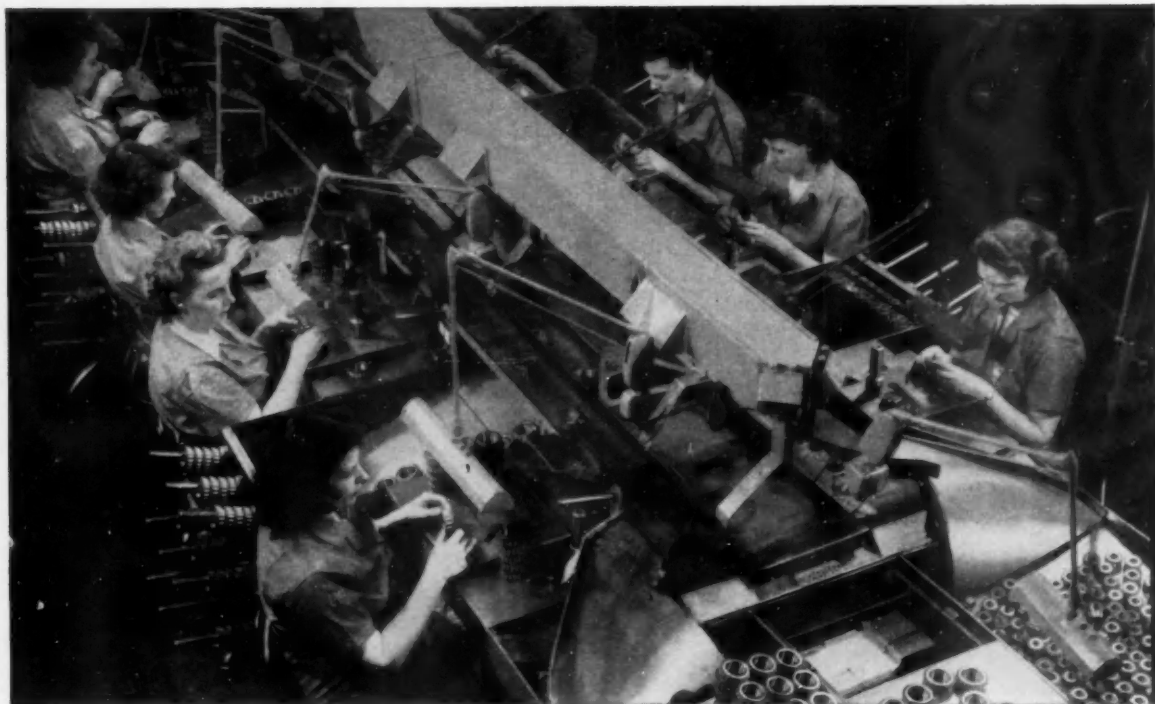
*(Another reason why TIMKEN® bearings
are first choice with truck manufacturers)*

WE leave nothing to chance! After every Timken® tapered roller bearing has passed the most rigid inspections, they're subjected to one more. We take that last long look for surface defects, tightness or looseness, bore dimensions. It's an extra step that makes Timken bearings the No. 1 value in your trucks' vital zones!

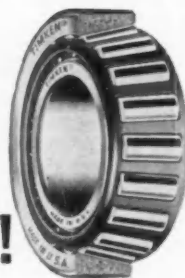
Only Timken bearings give you all these advantages:
1) made of our own fine alloy steels—and we're the *only* American bearing manufacturer that makes its own steel;

2) advanced geometrical design, for true rolling motion;
3) rigidly controlled quality; 4) precision manufacture. That's why Timken bearings are first choice with men who know trucks best—truck manufacturers.

Why not follow the lead of these men? Specify *Timken* bearings for replacement, too. Look for the trade-mark "TIMKEN" on every bearing. For helpful service information, write for the free booklet: "Timken Tapered Roller Bearings, Their Care and Maintenance". Dept. JCC-7, The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".



**SINCE THEY'RE BEST WHEN
THE TRUCK IS NEW, THEY'RE
BEST FOR REPLACEMENT, TOO!**



TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

NOT JUST A BALL ○ NOT JUST A ROLLER □ THE TIMKEN TAPERED ROLLER
BEARING TAKES RADIAL ⊥ AND THRUST ——— LOADS OR ANY COMBINATION ———

B.F. Goodrich



Traction Express tires give up to 50% more miles before recaps, trucker reports

LEE WAY MOTOR FREIGHT owns and operates 225 tractors, 450 trailers and 200 pick-up trucks out of Oklahoma City, Oklahoma. These units work 9 hours a day, 6 days a week hauling freight throughout the southwest.

When it comes to tires, Lee Way chooses the B. F. Goodrich Traction Express. Those pictured above have traveled 107,000 miles—nearly 50%

more than other makes—and are not ready for recapping yet. Lee Way reports no tread cracking, better traction and more recaps with Traction Express tires.

B. F. Goodrich builds the Traction Express with a tread that's up to 46% thicker than that of a regular tire. Curved cleats grip the road, defying dangerous skids. Under the tread you

can get the B. F. Goodrich *all-nylon* cord body. Nylon withstands double the impact of ordinary cord materials, resists heat blowouts and flex breaks. An *all-nylon* Traction Express body outwears even the extra-thick tread, *can be recapped over and over!*

The Traction Express, called "the 100,000-mile tire" by truckers, comes in *all-nylon* or rayon construction. See it at your B. F. Goodrich retailer's, or write: B. F. Goodrich Tire & Equipment Co., A Division of The B. F. Goodrich Company, Akron 18, Ohio.

FREE SAFETY REFLECTOR

when you join the Safe Driver League
Sponsored by B. F. Goodrich

Sign the safe driving pledge at your B. F. Goodrich retailer's. Show the President's Committee for Traffic Safety you're out to make our highways safer.

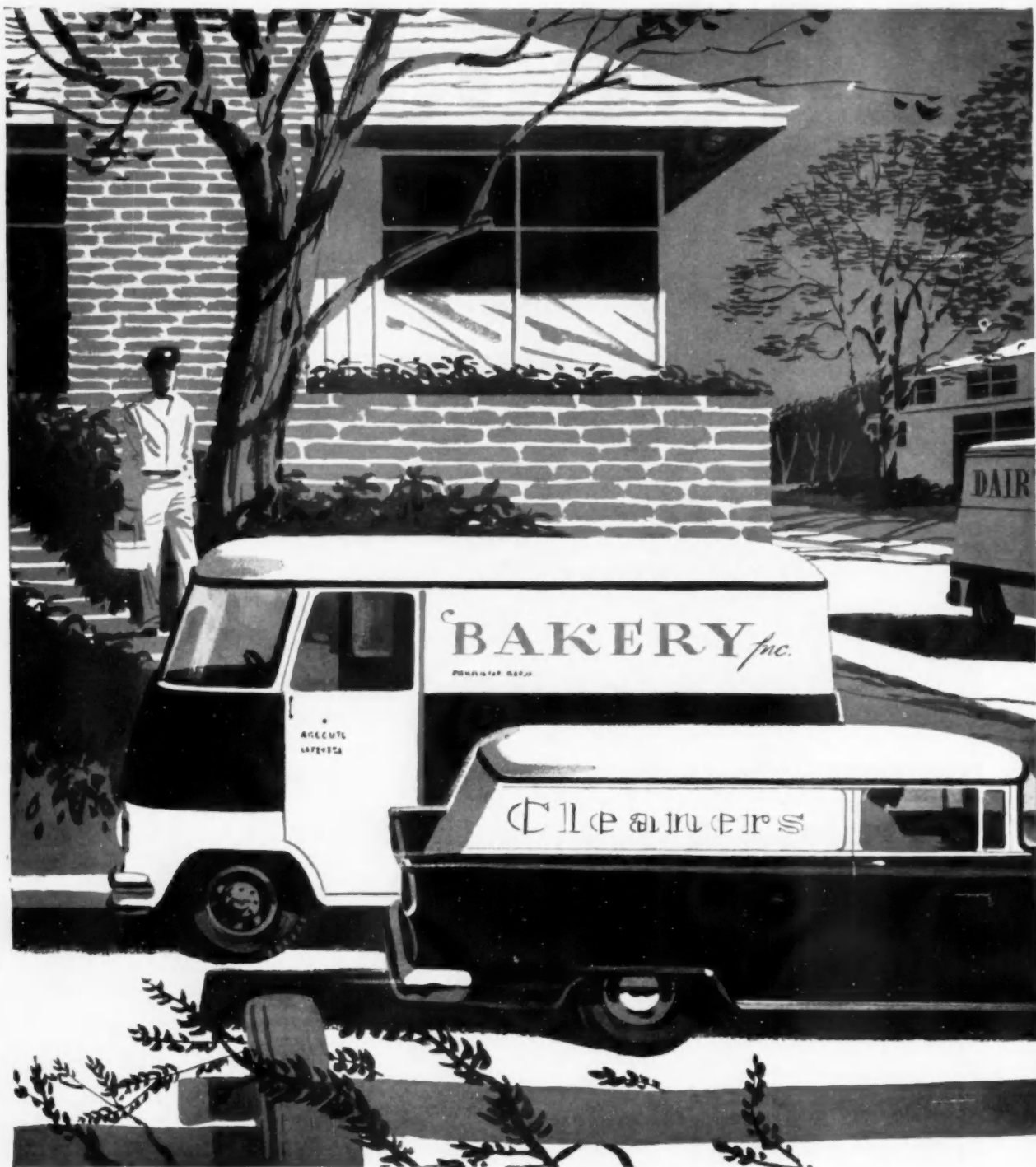


LEE WAY uses B. F. Goodrich *all-nylon* Heavy Duty Express tires as well as Traction Express tires on its 875-unit fleet.


Specify B. F. Goodrich tires when ordering new trucks or trailers



Your B. F. Goodrich retailer is listed under Tires in the Yellow Pages of your phone book



GENERAL MOTORS LEADS THE WAY—



*Now you can keep
batteries charged*

*in door-to-door delivery service
with Delco-Remy extra-duty
electrical equipment*

Delco-Remy's extra-duty generators with matching regulators are designed to meet the steady electrical demands of door-to-door delivery service. Your battery is protected from excessive discharge and cycling effects . . . stays charged, lasts longer.

Other units in the extra-duty line also help to keep door-to-door vehicles working—for example, the special-duty coils for 6-volt systems which protect distributor contact points from destructive burning during continuous low-speed operation . . . the rugged new extra-duty Delco batteries with long-lasting rubber separators and Delcoloy grids. Combined, these extra-duty units assure more dependable electrical performance in door-to-door service . . . help give vehicles more earning hours on the job.

Specify Delco-Remy extra-duty electrical equipment when you order new vehicles. Re-equip your present vehicles for greater efficiency. Complete details on Delco-Remy extra-duty electrical equipment are available through your General Motors car or truck dealer, or the United Motors System.

DELCO-REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA

STARTING WITH

Delco-Remy ELECTRICAL SYSTEMS



It takes a lot of work to deliver a loaf of bread

*Federal Bakery Co.,
Winona, Minn., makes it as
easy as possible—uses only
STANOLUBE HD-M Motor Oil*



Standard Oil's Stan Nelson (left), with Federal Bakery men (l. to r.); E. L. Hostettler, general sales manager; C. F. Baumann, garage superintendent and Wendel Fish, general manager, inspects one of bakery's trucks that has 100,000 miles of service and yet has required no major maintenance.

Everyone expects bread to be delivered fresh and on time. The housewife makes no allowances for rugged delivery schedules, bad weather, tough roads. Federal Bakery Company makes fine bread and delivers it to Southeastern Minnesota and Western Wisconsin on schedule no matter what the weather. A good PM system and the use of STANOLUBE HD-M Motor Oil in all of the company's trucks are two of the big reasons why Federal gets the job done.

And getting the job done is not just good enough for Federal. The Federal fleet of 40 Ford units—F-1's to F-600's—has one of the lowest cost-per-mile records in the Quality Bakers of America membership. Federal Bakery trucks have as much as 100,000 miles without even the pan removed. Other units have 250,000 miles on the chassis with many, many more miles still to go.

This kind of performance from equipment is routine for Federal Bakery. Helping trucks deliver low cost-per-mile service is routine for STANOLUBE HD-M Motor Oil.

The hot engine, long haul of Federal's over-the-road units, or the short trip, low temperature, frequent idling service of street delivery equipment—it is all the same to STANOLUBE HD-M.

Handling extremes of service, no matter what it is—in diesel or gasoline equipment—is built into STANOLUBE HD-M. Its highest quality base stock and additive formula mean clean engine performance, no varnish, no sludge, no carbon-like deposits.

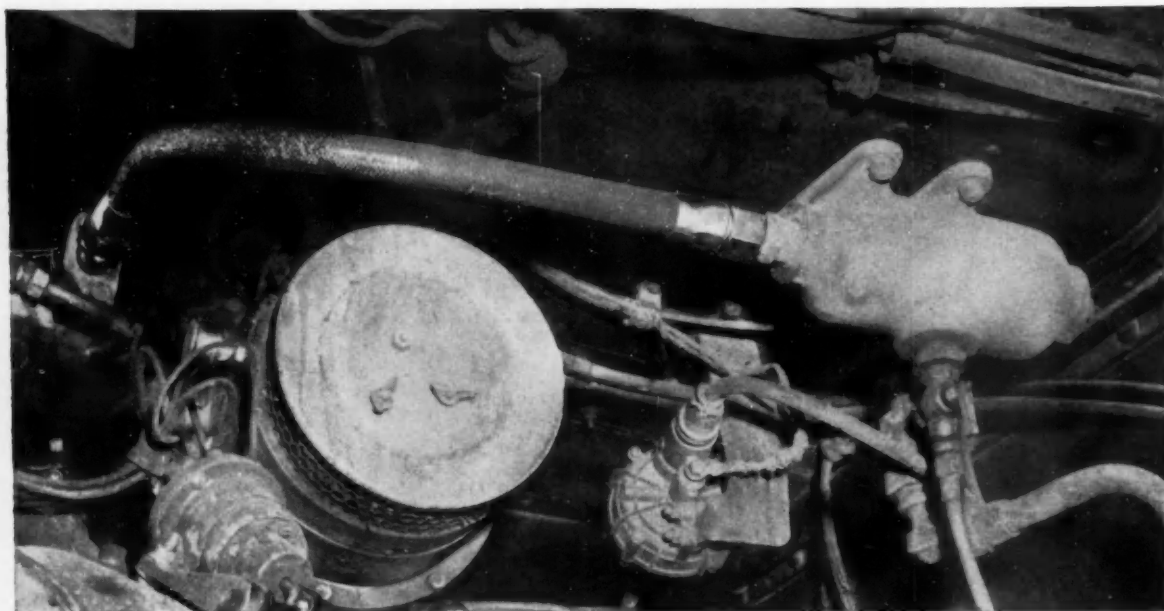
Find out more about STANOLUBE HD-M Motor Oil. Call your Standard Oil automotive lubrication specialist. There is one near you in any of the 15 Midwest and Rocky Mountain states. Or write Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

Federal Bakery Co., Winona, Minn., keeps close watch on maintenance costs, has one of industry's lowest cost-per-mile records. S. E. Nelson (left), Standard Oil automotive lubrication specialist, Arne Steivang (center) and Charles Baumann, Federal Bakery garage superintendent, confer about truck maintenance records. Helping customers with lubrication problems is something Stan Nelson is well qualified for. An engineer with a degree from the University of Minnesota and a graduate of Standard Oil Sales Engineering School, Stan has eight years' field experience. Customers have found that help from Stan Nelson pays off—for them.



STANDARD OIL COMPANY
(Indiana)

New Aeroquip Air Compressor Discharge Hose Has No Known Limit to Service Life!



Aeroquip's new 2800 Air Compressor Discharge Hose for bus and truck air brake systems was installed on a Schuylkill Valley bus in October, 1953, on a test basis. Frederick J. Whalen, general superintendent, Schuylkill Valley Line, Inc., Norristown, Pa., reports that the hose still operates satisfactorily after 131,000 miles.

Field tests on several hundred test lines conducted over a period of three years have indicated that there is no known limit to the service life of Aeroquip 2800 Air Compressor Discharge Hose.

Specially designed to meet the operating conditions of an air compressor discharge line, Aeroquip 2800 hose has a silicone inner tube that offers two important advantages: (1) it will not become brittle and crack, even at temperatures up to 500° F., (2) it minimizes carbon pickup, a major cause of failure.

Install Aeroquip's new 2800 hose and reusable fittings and end your major cause of air brake trouble! See your Yellow Page Directory for your Aeroquip distributor, or write us.

**Aeroquip**
REG. TRADEMARK

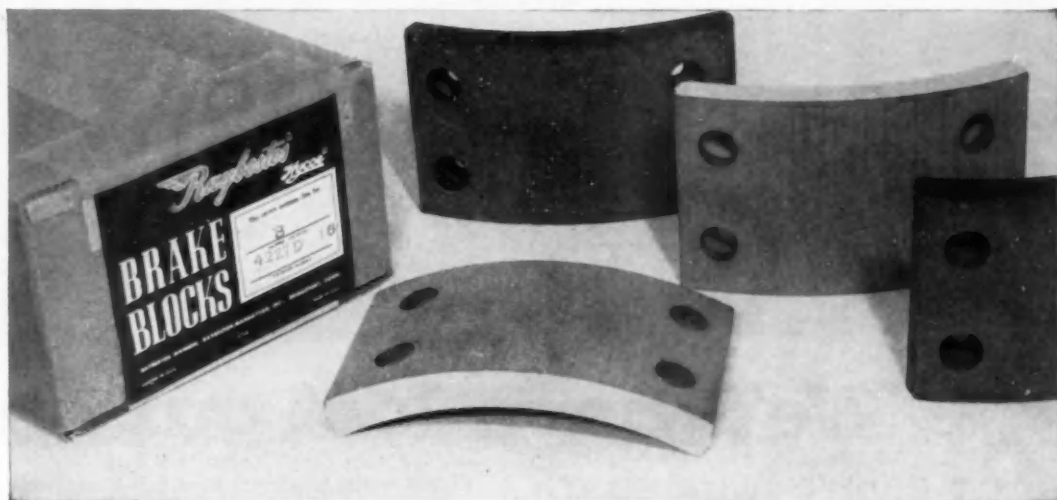
AEROQUIP CORPORATION, JACKSON, MICHIGAN

IN CANADA: AEROQUIP (CANADA) LTD., TORONTO 15, ONTARIO
LOCAL REPRESENTATIVES IN PRINCIPAL CITIES IN U.S.A. AND ABROAD • AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

Raybestos®

PERFORMANCE

will give you lower cost-per-mile



Yes, you will have lower operating costs because of the quality, uniformity and performance of these famous Raybestos products • **Brake Blocks** • **PGT Sets** • **Clutch Facings** • **V Drive Plates** • **Fan Belts** • **Radiator Hose**. To learn more about the savings Raybestos can give you, ask your Jobber Salesman about the unique Raybestos Fleet Engineering Plan.

Raybestos®

AMERICA'S BIGGEST SELLING BRAKE LINING



RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.
RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber Covered Equipment • Asbestos Textiles • Laundry Pads and Covers • Packings • Abrasive and Diamond Wheels • Bowling Balls



"We'd have lost our shirt

IF WE HADN'T SWITCHED TO 3-T NYLON CORD TIRES"

These words sum up a leading trucker's experience on the world's longest over-the-road haul.

In 1952 North American Van Lines contracted to move effects of government employees from all parts of the United States to Alaska, competing against water transport in both cost and time.

Some loads originating in Key West mean a 5,549-mile haul. All trips funnel through Great Falls, Montana, onto the Alcan Highway running to Fairbanks and Anchorage—1,545 miles of natural rock and gravel road.

On the initial trip seven tires failed completely and had to be replaced before reaching destination. In tire cost, in time wasted, this meant losing money—*since Canadian law permits American tractor-trailers to carry only two spare tires in transit!*

Hard put, the company switched to nylon cord tires on the Alaska run—and a strange thing happened. On some vehicles tire failures continued to mount alarmingly—while others made run after run without a whisper of trouble.

A careful check showed that the trouble-free rigs were mounted on truck tires built with Goodyear's exclusive Triple-Tempered 3-T Nylon Cord. They stood the gaff

Buy and Specify

GOOD

MORE TONS ARE HAULED ON GOODYEAR TRUCK



on the Alaskan run —

where tires built with ordinary nylon cord quickly failed.

Today all of North American's trucks on the Alaska run are rolling on Goodyear 3-T Nylon Cord tires. They log over a million miles a year at a new low tire cost. Road troubles are practically nil—in fact two tires were never off the rims in a quarter-million miles!

You may never hit such murder-runs as this, but you'll agree that such tough, enduring tires can cut costs plenty on any run. Goodyear tires built with Triple-Tempered 3-T Nylon Cord *cost no more than ordinary nylons*—so why not get all the facts and figures from your nearby Goodyear dealer? Goodyear, Truck Tire Dept., Akron 16, Ohio.



Look for this nearby Goodyear dealer sign
for better tire values—better tire care.

**3-T
NYLON CORD**
makes safest
**TUBELESS
TIRES**

**ONLY
GOODYEAR
TIRES HAVE
3-T NYLON
CORD**

TRACTION HI-MILER
built with 3-T NYLON CORD
Available in TUBELESS or TUBE-TYPE

YEAR

TIRES THAN ON ANY OTHER KIND

Fleet of **WHITES** and Delivery "Pool"

Modern terminal facilities at Newark Union Motor Truck Terminal accommodate 160 trucks at a time — room for 290 more outside — between U. S. Highway 1 and New Jersey Turnpike.

Terminal Cartage Corporation — Like leaders in the trucking industry everywhere — knows that Whites cut costs — boost profits — because they are engineered right to the job.

Only White has the complete line of trucks and tractors engineered for maximum payload advantages under restrictive highway law patterns . . . present and future.



*For More Than 55 Years
The Greatest Name
In Trucks*

"WC" Conventional Tractors

Saves Weight . . . permits more payload on rugged front axles

3000

Outstanding weight distribution . . . bigger front axle payload

9000

For maximum payloads where front axle loading and axle spacing are important factors

THE WHITE MOTOR COMPANY

CLEVELAND 1, OHIO

Helps World's Largest Pick-Up Cut Costs and Save Time!



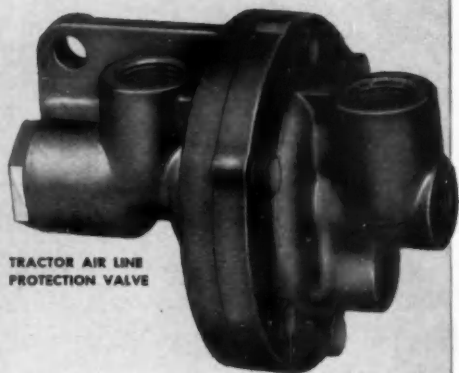
WHITES are filling an important role in the economy picture at the huge Newark Union Motor Truck Terminal. Terminal Cartage Corporation consolidates pick-up and delivery for 11 over-the-road carriers serving Northern New Jersey, and the entire metropolitan New York area. "Pooled" P & D and peddle runs eliminate congestion, save time at shippers platforms, cut costs of local deliveries—especially with Terminal's modern fleet of White 3000 trucks and tractors. They save space—save maneuvering and driving time every hour of the day, and they are engineered for maximum payloads—top earning power.



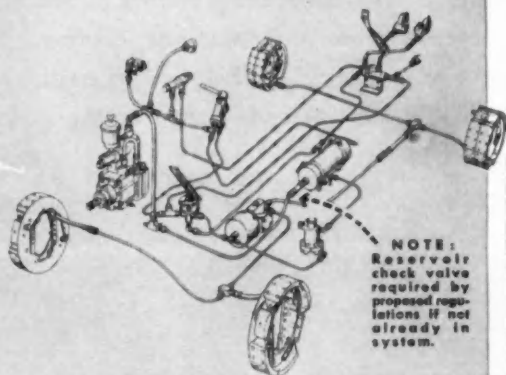
Now...you can give tractors both **MANUAL** and **FULLY AUTOMATIC** protection!



EMERGENCY BRAKE VALVE



TRACTOR AIR LINE
PROTECTION VALVE



Wagner's two new tractor valves in combination with ANY trailer emergency (breakaway) valve protect tractor-trailers —meet all new I. C. C. regulations!

The emergency brake valve triggers emergency braking on the trailer and may be operated manually, at any time, or will automatically operate when air loss drops pressure to a pre-determined value.

The towing vehicle is protected by the tractor airline protection valve which automatically isolates the tractor air supply and provides normal brake control of the tractor in the event of a pressure loss on the trailer.

These Two New Valves Provide these Superior Advantages

Manual and fully automatic protection

Emergency braking may be triggered at any time by merely pulling the valve knob; however, the fully automatic application requires no special thought or action on the part of the driver in any emergency due to trailer breakaway or air loss failure.

Compatible with all makes of trailer equipment

Trailers equipped with air brakes of popular manufacture may be freely interchanged.

Tested automatically

Valves are automatically and completely tested each time a trailer is coupled and uncoupled.

Simplifies the driver's job

No need to climb on tractor to open or close shut-off cocks. All driver does after making "glad-hand" hose connections is to depress the emergency brake knob, completely charging the trailer air brake system. Contact your local Wagner Air Brake Representative—or write for Bulletin KU-281.

Choice of Three Installation Kits

For installing new tractor air brake system:

Kit No. A23348—

includes reservoir check valve

Kit No. A23349—

without reservoir check valve

For converting tractor air brake system:

Kit No. A23351—

includes check valve

Kit No. A23352—

without check valve

For modifying systems

presently equipped with Wagner tractor protection valves:

Kit No. A23367—

includes check valve

Kit No. A23368—

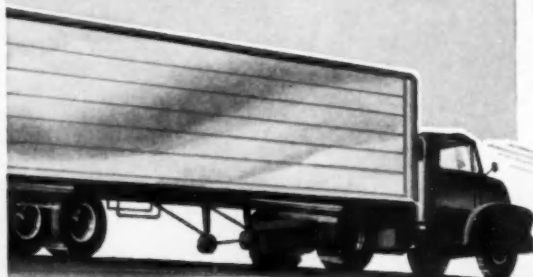
without check valve

Specify the New Wagner Emergency Brake Valve and Tractor Air Line Protection Valve when ordering new equipment

Wagner Air Brake Systems

Wagner Electric Corporation 6470 Plymouth Ave.

ST. LOUIS 14, MISSOURI



K56-8

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRoL • CoMoX BRAKE LINING • AIR BRAKES • AIR HORNS • TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES



LONG LIFE

LOW UPKEEP!

**That's what you can expect
from your engines...
when you use Delvac Oils!**

Greater efficiency... greater fuel and oil economy... fewer repairs and overhauls—that's what you can expect from your Diesels and heavy-duty gasoline engines when you change to famous Delvac Oils. Here's why:

Delvac Oils have a service-proved super detergent formula that keeps dirt in suspension... drastically reduces deposits... protects vital engine parts against corrosion. They also resist oxidation and foaming.

The result—less engine wear, longer engine life... greater availability and profit from every unit.

Your Socony Mobil representative can supply you with Delvac Oils — recommended or approved by leading engine and equipment builders.

DELVAC OILS

Correct Lubrication for Fleet Operators

THE FLYING RED HORSE COMPANIES: SOCONY MOBIL OIL COMPANY, INC., MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

COMMERCIAL CAR JOURNAL, July, 1956



Delvac 900 Series Oils: Under API Classification, recommended "For Services MS, DG."

Delvac S-200 Series Oils: Under API Classification, recommended "For Service DS."

Phony Fables about Oil Seals



Fable No. 3

"Why stock seals?"

Pound the old one back in!"

No one — not even a parts engineer — can tell for sure how much dependable service life a used oil seal has. And pounding a new seal in with a hammer is the surest way to end its service life right now! (Oil seals should be seated with a wood block and rubber mallet, or installation tool.)

Car manufacturers, brake lining and bearing makers, oil companies and mechanics agree "always install new seals every time old ones are removed". Then you insure against oil leaks, grease on brake linings and trouble-returns that cost you net dollars.

Make it easy to install new seals every time by having your jobber install a National Oil Seal service stock. Nationals are America's largest selling replacement seal; National stocks mean you have the right seal when needed and can do a better job at no extra work.

Call your jobber now about National Oil Seal Service Stocks.



Support this
industry-wide
program



NATIONAL MOTOR BEARING CO., INC.

GENERAL OFFICES: Redwood City, California

PLANTS: Redwood City, California and Van Wert, Ohio

Another Phony Fable:

"Dead numbers" galore in oil seal stocks

Not National stocks! National stocks are tailored to your fleet's exact seal needs. As you change equipment, your jobber alters the stock. National's realistic obsolescence policy insists he return for credit all numbers you can no longer use.

And remember! Nationals are exact replacement, because National makes original equipment seals, too!



NATIONAL
OIL & GREASE SEALS
O-RINGS SHIMS

Approved original equipment for all cars, trucks, buses and tractors.

3690



**new
clutch
is
adaptable
to
all
torque
needs**

✱ By varying the number of springs in multiples of three, *Lipe* can adapt the five sizes of its new Direct Pressure Clutch to all engines developing from 300 to 1300 ft-lb of torque. For example: depending on its service, a 15" DP can be furnished with its full complement of 27 springs . . . or only 24, 21, 18, or 15.

The advantages of this unique *Lipe* feature are obvious. Manufacturers will find it may be possible to standardize on a single clutch size to meet *all* torque requirements. Fleet Owners will notice the significant reductions in maintenance since clutches won't be under- or overloaded.

Write for full information.

Manufacturers of Automotive Clutches & Machine Tools



***Lipe*-ROLLWAY**
CORPORATION
SYRACUSE 1, N. Y.

Engineered for more



power and long life!

Today's high-horsepower and high-compression engines demand specially designed spark plugs for top performance.

Built into every AC Commercial Spark Plug are two AC exclusives—the Hot Tip and Conductaseal—developed by AC engineers as the best answer yet found for this dual problem.

1. More power is yours with AC Hot Tip Spark Plugs because AC's exclusive Conductaseal is the most effective center seal produced for commercial spark plugs. No power loss or compression loss here! What's more, this seal assures proper heat control and heat dissipation for maximum efficiency in plug operation.

2. Long life comes from many an AC design feature. Of particular importance in this regard is the way a tornado of hot gases is swirled up and around the deep recess of the AC insulator. This action carries away most of the combustion left-overs, helps keep both insulator tip and electrode clean. The quick-heating, quick-cooling Hot Tip burns away any remaining residue, keeps plugs free from fouling, smooth-running throughout their long life.

Order AC Commercial Spark Plugs now, and see how they deliver extra power and long life in your fleet.

Watch BIG TOWN on NBC-TV

AC SPARK PLUG



THE ELECTRONICS DIVISION OF GENERAL MOTORS

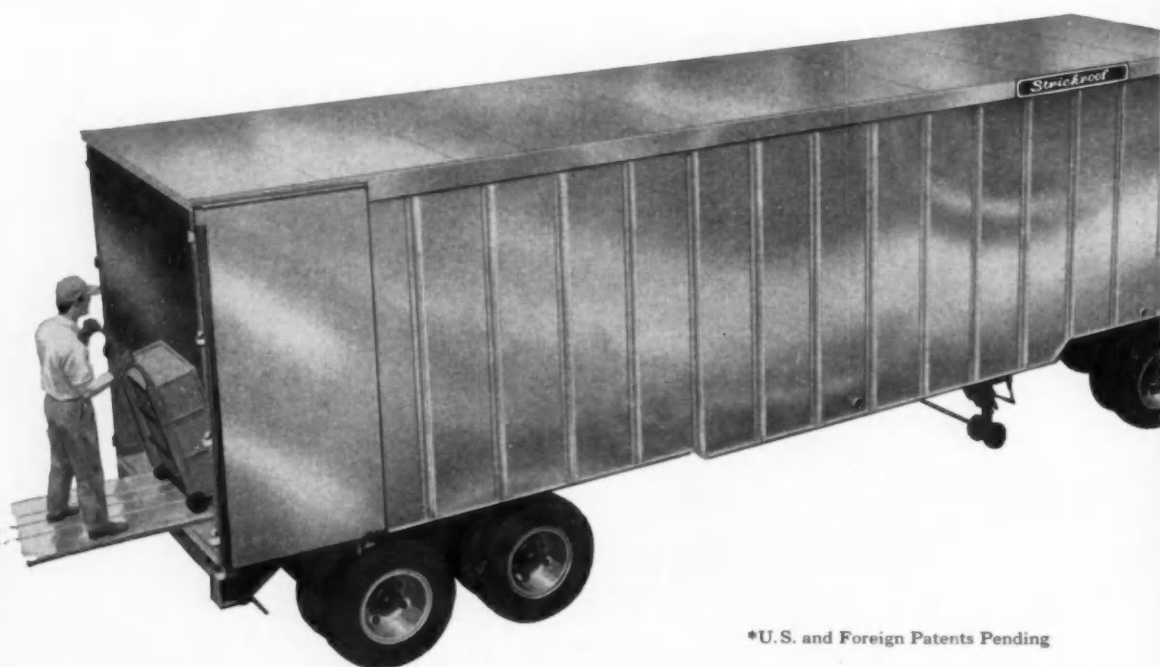


commercial
spark
plugs





An open and



*U.S. and Foreign Patents Pending



THIS REMARKABLE VAN—developed jointly by Strick Trailers of Philadelphia, and Kaiser Aluminum—is another outstanding example of aluminum helping to improve service and reduce costs in the trucking industry.

Turn a handle on the side and the van roof slides forward or backward . . . becomes an open-top vehicle which can be loaded quickly by an overhead crane.

Shut the roof and you've got a standard van that's weather-proof and watertight. No tarpaulin to handle and maintain. Ends wet freight claims. No necessity to refuse loads because of bad weather.

What made this revolutionary *Strickroof** van possible? First, *aluminum* with its lightness, strength, corrosion-resistance, workability. Second, the *close cooperation* of Strick engineers with the engineers of Kaiser Aluminum.



shut case for aluminum!

We are eager to work as an "idea partner" with any manufacturer, large or small, who wants to take full advantage of the most versatile of all metals.

No matter what your trucking problem, our engineers will gladly work with you to develop a design which will help lower your costs . . . increase your profits. For immediate service, call the Kaiser Aluminum sales office listed in your telephone directory. Kaiser Aluminum & Chemical Sales, Inc. General Sales Office, Palmolive Bldg., Chicago 11, Ill.; Executive Office, Kaiser Bldg., Oakland 12, California.



Kaiser Aluminum

setting the pace—in growth, quality and service

Only ARMSTRONG Can Promise and Deliver
EXTRA MILEAGE-EXTRA RECAPS
AT NO EXTRA COST!

*The Secret lies in ARMSTRONG'S
2 EXCLUSIVE EXTRA INSERT PLIES!*



**Truckers Certified Records
Prove: ARMSTRONGS Keep
Operating Costs Lower!**

Armstrongs give you so many more miles . . . so many more recaps for your money because Armstrongs are made *stronger*! Two exclusive extra insert plies plus the breaker strip help hold the carcass tight . . . reduce tire growth and mileage-consuming "stretch." And by guarding against heat and impact breaks, they make Armstrongs up to 71% more recappable! Yes, Armstrongs wear longer — yet cost no more! Good reason to switch to Armstrong!

Remember: You Get Double Insert Plies Only In

ARMSTRONG  **TRUCK TIRES**

The Armstrong Rubber Co., Home Office, West Haven, Conn.

TALK ABOUT REAL COMFORT...HE RIDES A "BOSTROM 80" TRUCK SEAT

Drivers for Yellow Transit Freight Lines, Inc., Kansas City, are enjoying passenger car riding comfort in 210 new Kenworth tractors. Every single one is equipped with a Bostrom "Level Ride 80" truck seat.

Yellow Transit feels strongly that its drivers are entitled to every possible aid to comfort, health and safety. It backs up this feeling by providing equipment like the "Bostrom 80" truck seat, to keep drivers alert, fresh and rested even after a full day's run. Naturally, this policy pays off for Yellow Transit in the form of higher morale, greater safety, lower costs of operating.



◀ A Yellow Transit driver adjusts the "Bostrom 80" truck seat to suit his own weight before a day's run. Five comfort adjustments enable him to ride in perfect comfort over all types of routes, alert at all times to every driving condition.

The same driver parks his tractor at the end of a 300-mile run from Detroit to Indianapolis. He's fresh and free from driver fatigue as a result of being "floated" on Bostrom's torsion spring suspension. He was able to control his equipment better—therefore drove

▼ in greater safety.



Specify "Bostrom 80" as Original
Equipment and Replacement.

© 1956

BOSTROM

For Further Information Write:





Bostrom Manufacturing Co., 100 W. Oregon St.
Milwaukee 4, Wisconsin



Why do you think they build



*Because Packard Cables
last longer and cost less per mile,
they're used most on new cars,
trucks and buses!*

			
<p>CABLE FOR REAR ENGINE BUSES—Brand new development made with new type insulation to withstand heat, fuel-oil vapors, steam and cleaning compounds.</p>	<p>"440" IGNITION CABLE—Long the leader, this Packard-developed high tension cable continues to be used on more vehicles than any other except those using Packard TVRS.</p>	<p>TELEVISION - RADIO - SUPPRESSOR CABLE—This Packard exclusive suppresses radio and TV interference and is original equipment on millions of vehicles.</p>	<p>BATTERY CABLES—Special design delivers full starting power . . . provides extra flexibility and strength. Additional features at no extra cost make replacement easier.</p>

'em with PACKARD CABLES?



Don't replace . . . RENEW! When buying cable, follow the lead of the vast majority of automobile and truck manufacturers and specify Packard. You'll give your vehicles like-new performance.



MEET THE CHAMP . . . PACKARD LOW TENSION CABLE WITH "404" INSULATION!

Here's a tough, highly flexible cable with stranded copper conductor that meets all your requirements without use of braid. It's slimmer. It strips more easily. And, it gives you lowest cable cost per thousand miles. The "404" insulation is oil-proof, flame-proof, moisture-proof and acid-proof. Millions of feet are installed daily on new cars, trucks, buses and tractors.

Packard Cables are engineered to give superior performance in every class of automotive service. Vibration, temperature, acid, constant flexing—Packard Cables conquer all these. And they're made for easier installation, too! More than half the vehicles built are equipped with Packard Cable.

Now's the time to call your Packard Jobber for that fast, single-source delivery service. You'll be pleased to find that all items are packaged for your convenience!

**FOREMOST BUILDER OF
AUTOMOTIVE WIRING**

Packard
REG. U.S. PAT. OFF.
TRADE MARK

Packard Electric Division, General Motors, Warren, Ohio



A GENERAL MOTORS PRODUCT — A UNITED MOTORS LINE
DISTRIBUTED BY WHOLESALERS EVERYWHERE

"Safe, dependable service
under any
driving conditions!"





N. A. ERSCHEN

Trade Mark "NESTCO" Reg. U. S. Pat. Off.
**SEMI-SOLID BUTTERMILK
AND
MOLASSES**

Berlinsville, Penna.
P. O. Walnutport, R. 2

Kelly-Springfield Tire Co.
Cumberland, Md.

Gentlemen:

For the past twenty-three years I have been actively engaged in the trucking business. During that period I have tried many brands of tires, but in 1939 I started to use Kellys.

Since my trucks must operate in all kinds of weather, I must have a rugged, all-purpose tire. Your Kellys really fill the bill. They not only give me low cost-per-mile but, most important, they give me safe, dependable service under any driving conditions.

You may well be proud of your fine product which I expect to be using for many years to come.

N.A. Erschen

KELLY PERFORMANCE PAYS OFF

in *Safety...* and in *Savings*

Truck and fleet operators everywhere keep telling us that Kelly Nylon Truck Tires deliver outstanding performance at amazingly low cost-per-mile. Our files are jam-packed with letters like the one shown here—convincing proof that Kellys pay off in safety and savings!

If you are not already using Kellys, it will pay you well to get all the facts. And that's because you'll never know how really low you can push your tire cost-per-mile—and get extra safety, too—until you've seen the Kelly story!

**There's a tough Kelly
for every trucking job!**

Once you see what Kellys are doing for other truckers, the chances are you'll switch to Kellys—fast!

For safety and for savings, see your Kelly Dealer. Or, if you prefer, write to: The Kelly-Springfield Tire Company, Cumberland, Md.



One of Matco's Ford F-900 BIG JOBS hauling trailer off railroad flatcar. Ford's ease of maneuverability in close quarters of freight yards saves precious time on every job.

**"5,000 lbs.
More
Payload**



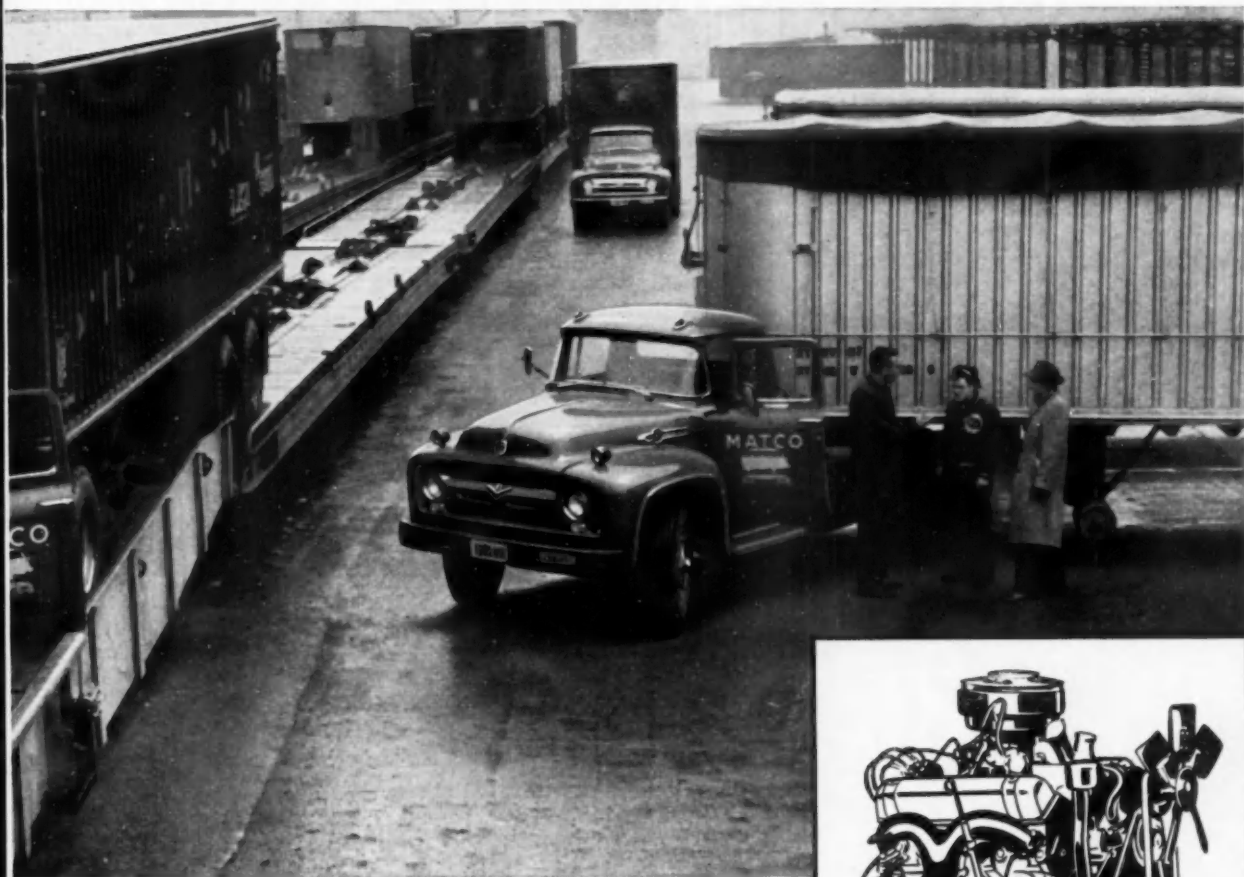
than our other trucks with



Mr. Dominick Marino, Vice-President and General Manager of Matco Transportation, Brooklyn, N.Y., directs a "Piggy Back" operation with his Ford Trucks and the Pennsylvania R.R. Matco is one of the busiest trucking firms of this type in New York. And they're mighty proud of their efficient delivery in Chicago and St. Louis, too.

**...yet our FORD BIG JOBS cost
thousands of dollars less!"**

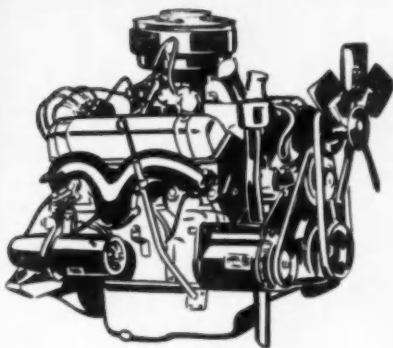
Increased payload (up to 5000 lbs. more) and low initial cost convinced Mr. Marino of Matco Transportation Inc. to try Ford Trucks in his operation. Says Mr. Marino, "At first we wondered how the Fords would compare with our heavier trucks. We didn't wonder for long. The Fords beat the other trucks on practically every count. Our Ford F-900 BIG JOBS haul more payload and have the *Power and Go* to pass our bigger, more expensive trucks. Drivers make better time and feel much better after long hauls in a Ford Cab, too—it's a great morale builder."



the same G.C.W.

Is your Fleet getting the most PAY out of the payload?
Now Ford builds BIG JOBS up through 65,000 lbs. GCW. No other line of trucks, rated for such big loads, is *priced as low* as Ford.* Only Ford Trucks give you such safety features as new Lifeguard steering wheel and door latches. New Ford seat belts available, too. Ask your Ford Dealer for details.

*Based on a comparison of manufacturers' suggested list prices.



"Ford V-8 Power walks away from other trucks on hills," says Mr. Marino.

212-h.p. Short Stroke *Torque King* Special V-8 gets added power from four-barrel carburetion, exclusive hood-mounted air scoop. And for longer engine life—stress-relieved cylinder heads resist distortion; sodium-cooled exhaust valves run 225° cooler; deep-skirt crankcase gives longer bearing life.

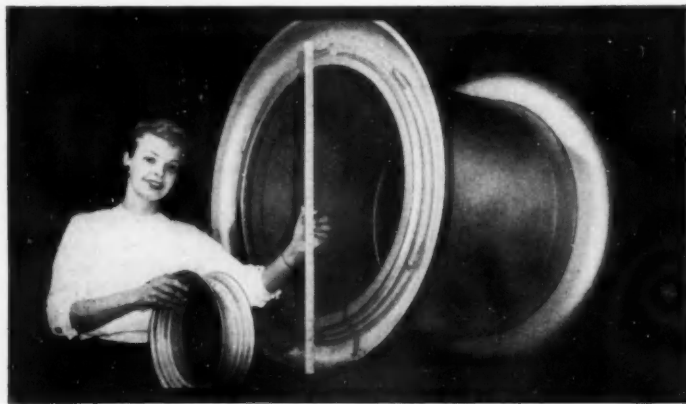
FORD TRUCKS LAST LONGER

Big Fleet Owners buy more Ford Cars and Trucks than any other make

FROM THE WORLD'S LARGEST World's most com



Goodyear stores rims in outdoor areas, and so can you—thanks to exclusive Goodyear Bond-a-Coat finish which provides long-lasting resistance to rust and corrosion. Bond-a-Coat has been used and proved on Goodyear Rims for ten years.



**FROM THE SMALLEST TO THE LARGEST —
THERE'S A GOODYEAR RIM TO FIT YOUR NEEDS**



Truck, Bus and Trailer Rims must best this test. Rim and wheel assemblies travel the equivalent of 750,000 miles in 30 days on this unique apparatus. It's a testing drum on which obstacles, mounted at intervals, simulate severest road conditions. Only when a Goodyear rim passes tests like these is it ready to be manufactured in quantity.

TIRE MANUFACTURER COMES THE plete line of rims



YOU'D naturally expect the world's tire-building leader to be first through the years in the advancement of tire-mounting techniques.

So from Goodyear's huge research and testing facilities has come a never-ending parade of rim improvements—culminating in a complete line of rims for tubeless tires — including the Tru-Seal Rim, which makes tubeless tires practical for even the largest vehicles used today.

What does this notable record of achievement mean to you? Just this.

Whatever your rim requirements, you'll find the answer emerging from Goodyear's modern steel fabricating plant.

This busy plant turns out rims for every type of vehicle, from the smallest truck to the largest earth-mover—for every imaginable farm and industrial use. These rims range in weight from 8 pounds to over half a ton.

And each type is subjected to the most grueling tests of quality and endurance before being approved or recommended.

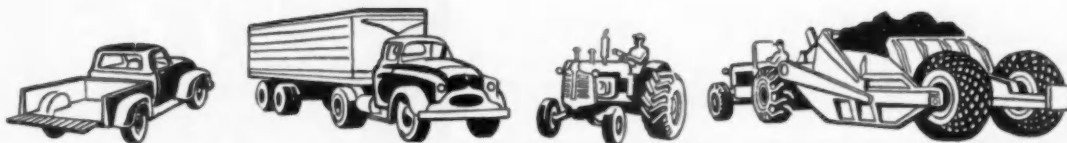
So it's not surprising that more tons are carried on Goodyear rims than on any other kind. Why not take advantage of this vast Goodyear experience when solving your rim problems. The G.R.E. (Goodyear Rim Engineer) will help you select the type and size of rim best suited to your needs. Write him at Goodyear, Metal Products Division, Akron 16, Ohio, or contact your local Goodyear Rim Distributor.

Buy and Specify

GOODYEAR

Tru-Seal—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

MORE TONS ARE CARRIED ON GOODYEAR RIMS THAN ON ANY OTHER KIND



For operations requiring short transmission steps and high over-all gear reduction...

THE NEW TDA[®]

WIDE

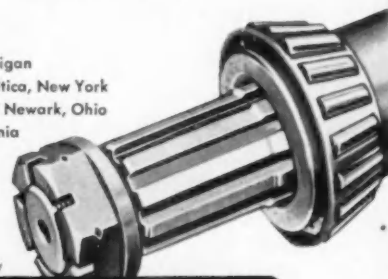
A new member of the famous TDA 2-Speed Axle Family!

The new TDA WIDE RANGE 2-Speed Axle brings a new concept of flexibility and driving simplicity to the automotive industry. It offers all the highly desirable advantages heretofore available only through the use of complex multiple-speed transmissions or auxiliary gear boxes without many of the penalties of one or the other:

- WITHOUT laborious two-stick shifting.
- WITHOUT wasteful excessive weight.
- WITHOUT increased driver fatigue.
- WITHOUT unusual wheelbase limitations.
- WITHOUT higher initial vehicle cost.
- WITHOUT higher maintenance cost.
- WITHOUT excessive wear on the lower speed gears of the transmission.
- WITHOUT restricted over-all gear reduction.
- WITHOUT complicated shift patterns.

This is but a brief summary of the many distinct, positive, provable advantages afforded by the development of this new WIDE RANGE concept in the famous TDA line of double reduction two-speed axles. For complete information on the new TDA WIDE RANGE Axles now available (in both 2 to 1 and 2½ to 1 ratio spreads) call, wire or write your nearest vehicle dealer or branch.

Plants at: Detroit, Michigan
Oshkosh, Wisconsin • Utica, New York
Ashtabula, Kenton and Newark, Ohio
New Castle, Pennsylvania



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TIMKEN
Detroit
AXLES

TIMKEN-DETROIT AXLE DIVISION
ROCKWELL SPRING AND AXLE COMPANY
DETROIT 32, MICHIGAN



RANGE[®]

2-SPEED AXLE



Here's the simple switch that turned the trick!

The broader range of the new Timken-Detroit[®] WIDE RANGE 2-Speed Axle was achieved by a fairly simple mechanical rearrangement. We "flipped" our high-range (1) and low-range (2) helical gear

sets—reversed their relative positions—to place the enlarged helical pinion of the high-range gear set where it would not interfere with the hypoid pinion (3) of the first-reduction gear set.

WORLD'S LARGEST MANUFACTURER OF AXLES FOR TRUCKS, BUSES AND TRAILERS

DRESSED TO KILL



Clothes make the man, they say. They might also say that clothes make the man sorry—when they lead to accidents.

For example: there's the guy whose pant legs were just a wee bit too long. He was working on a ladder when his heel caught. The rip in the pants was easy to repair. But it took a while for his broken arm to mend.

Of course you wouldn't be as dumb as another guy. He was wearing oil-soaked coveralls and enjoying a smoke . . .

Hell, you don't have to be told:

- That flapping sleeves and ties that fly can give your job to another guy,
- That dirty clothes can cause an itch, and boy you'll scratch like a sunnova ———,
- That worn out shoes can cause you grief 'cause for broken bones there ain't much relief.

Keep shirt sleeves short or buttoned close. Take a hitch in your belt, and tuck in your tail. Wear shoes with strong soles, good uppers. And if you're handling heavy items wear safety shoes. Stay as clean as possible, and get into a fresh outfit if you get soaked with oil or solvents. It pays to look in the mirror so you'll look alive.



Moving hard-to-handle coils between rolling and finishing mills.

AUTOCAR

ON THE MOVE

... Cuts Steel Mill Handling Time

TRUCKS have to be husky and dependable on this rugged "continuous" interplant production line handled by American Cartage Co. at the Cleveland Works Division of Jones & Laughlin Steel Corp. Big, hard-to-handle loads of coil or plate . . . difficult operating conditions and schedules! Perfect spot for Autocar —with its 200-horsepower White Mustang engines and rugged Autocar "nut-and-bolt" construction.

Why not investigate Autocar for your specialized extra heavy, extra tough handling jobs.

AUTOCAR DIVISION
THE WHITE MOTOR COMPANY
EXTON, PA.

Engineered to transport bulky steel plate loads with same skill.





Laugh it off!

Steno May: "Yeah, I guess you'd say my shape is my fortune."

Steno Fay: "Then stay away from that new traffic manager."

Steno May: "Why?"

Steno Fay: "He's a penny pincher."

CCJ

Maintenance Superintendent: "Sam, when I loaned you my car last night, I understood you needed it on business. Today I found long blonde hairs on the back seat..."

Shop Foreman: "I can explain, Boss."

Maintenance Supt: "Explanation be hanged. What I want is an introduction."

CCJ

The sun was just beginning to peep over the eastern hills when the completely spifflicated truck mechanic came out of an all night tavern. Stag-gering over to a waiting cab, he opened the door and crawled inside.

The driver disgustedly said, "I'm engaged!"

The inebriated truck driver shook hands with him and whispered, "I hope you will be very, very happy."

CCJ

Truck Driver: "Goin' my way, Babe?"

Gorgeous Blonde: "My dear sir. I'll have you know that a girl like myself does not take up with a stranger on a street corner. A girl like me who has an apartment in one of the finest neighborhoods—432 Melrose Avenue, and the very first door at the front of the hall, the top floor with a private phone—West 2200!"

A TRUCK DRIVER WAS A HUNDRED YARDS FROM AN OPEN RAILROAD CROSSING AND WAS PROCEEDING AT 35 MPH. A TRAIN WAS APPROACHING AT 60 MPH AND ITS DISTANCE FROM THE CROSSING WAS 165 YD. PROBLEM: DID THE TRUCK DRIVER GET ACROSS?

SOLUTION: YES, THE TRUCK DRIVER GOT A CROSS. HIS WIDOW BOUGHT IT OUT OF THE INSURANCE MONEY.

CCJ

Safety Sadie: "Cora, honey, I am happy to hear that you have met your ideal man."

Catty Cora: "Thank you, dear. It might interest you to know that he's got money to burn."

Safety Sadie: "Well, that's right up your alley, gal. You always did like to play with fire."

CiCi Jay



"Saves explaining all the time how you feel!"

First Topsy Mechanic: "Lesh take a drink and find ush shum girlsh!"

Second Ditto: "No, thanksh. I got too mush to take care of at home."

First Topsy Mechanic: "Thash good. Then lesh go to your housh."

CCJ

Diner Waitress: "We got some good zoop today. Want some?"

Reefer Driver: "Zoop? What is that?"

Diner Waitress: "You know what hash is? Well, zoop is looser."

CCJ

SLIM 'N GREASY, OUR SHOP ROUSTABOUT, SAYS: "MY GAL IS A WONDERFUL AFTER-DINNER SPEAKER — EVERY TIME SHE SPEAKS TO ME SHE'S AFTER DINNER."

CCJ

Steno Lou: "Sure, Susie, my brother plays basketball. Why one of the biggest coaches in the country is trying to get him."

Steno Sue: "I didn't know that. Who's he playing with now?"

Steno Lou: "The coach's wife."

CCJ

The cuddly cutie fell with a light sigh into his arms. Her head tilted backward and their lips met. She turned her head slowly, then spoke softly: "You understand, don't you, that I've never done a thing like this before?"

Traffic Rate Clerk: "My, my, you certainly inherited a lot of talent."

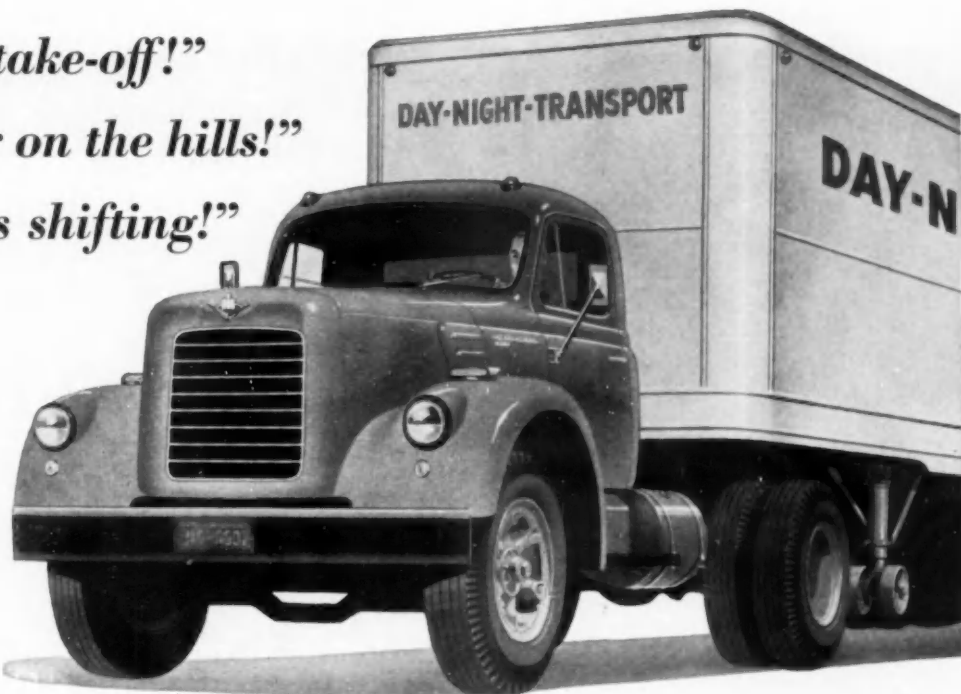
Resume Work

"Faster take-off!"

"Faster on the hills!"

"Far less shifting!"

That's what 100
fleet operators,
who tested them
in 2,500,000
on-the-job miles,
said about the



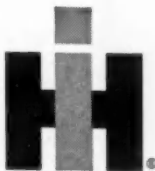
GREAT, NEW INTERNATIONAL V-8's!

We knew we had a great new line of heavy-duty V-8's after 30,000 hours of testing and developing in the laboratory. We proved it to our own satisfaction in 1,000,000 miles on the test track. But the 100 fleets who really gave these power-packed huskies a going over, on all kinds of terrain, on all kinds of jobs, really put on the final stamp of approval with their terrific enthusiasm!

Report after report pointed out that these 206, 226 and 257 hp. V-8's have more *go* at the lights . . . greater sustained speed on the hills . . . offer shorter trip time . . . more ton-miles per gallon . . . higher average road speeds . . . *more power where it's needed most!*

Sounds too good to be true? For convincing proof, send coupon for our booklet that gives all the facts (plus reports from actual owners) on the new International V-Line. Better yet, take the wheel at your INTERNATIONAL Dealer's or Branch, and prove it to yourself.

**INTERNATIONAL®
TRUCKS**



Motor Trucks • Crawler Tractors • Construction Equipment
McCormick® Farm Equipment and Farmall® Tractors



CHECK THESE MODERN V-8 FEATURES!

Hydraulic Valve Lifters • Stress Relieved Cylinder Heads • Full Vacuum Advance Distributor • Fully Machined Combustion Chambers • Positive Type Valve Rotators • Pressure Controlled-Flo Cooling • "Wet" Replaceable Exhaust Valve Guides.

3 Great V-8's	V-401	V-461	V-549
Displacement	400.9 Cu. In.	461 Cu. In.	548.7 Cu. In.
Bore and Stroke	4-1/8 x 3-3/4	4-1/8 x 4-5/16	4-1/2 x 4-5/16
Maximum Hp.	206 @ 3600	226 @ 3600	257 @ 3400
Maximum Torque	355 @ 1800-2000	420 @ 1600	505 @ 2000

GET ALL THE FACTS! Mail coupon today!

INTERNATIONAL HARVESTER COMPANY
P. O. Box 7333, Chicago 80, Illinois
Please send me new free booklet "New Heavy-Duty
V-8 Power Where You Need It Most!"

NAME _____

FIRM _____

STREET _____

CITY _____ ZONE _____ STATE _____



"Eucs" start to work here, haul ore-laden rock from this 2½-mile long pit

Five-cu yd shovels lift seven tons at a bite, average three bites per "Euc"



The "Eucs"

Around the clock, every day

▼ DEEP IN THE far "North Country" of New York State near the village of Newtown Falls is an extremely interesting ore mining operation of the Jones & Laughlin Steel Corp. The project has a special interest for COMMERCIAL CAR JOURNAL and its readers since part of the land is owned jointly by CCJ's parent organization, Chilton Co., and another publishing company.

Both publishing houses, incidentally, own



Top. Coming and going over company built road goes on 24 hours a day. Above. Ore-rock—up to six tons a hunk—is dropped into crusher (left) that breaks it up into 8-in. chunks.

That Never Wear Out

By Bart Rawson

utilization is all-important in mining operations and maintenance has to keep pace

the adjacent paper mill from which much of our paper has come over a period of years. But the ore mining operation itself is separate, strictly a Jones and Laughlin project functioning under the guiding hand of division manager Grant Fleck.

Keynote-Utilization

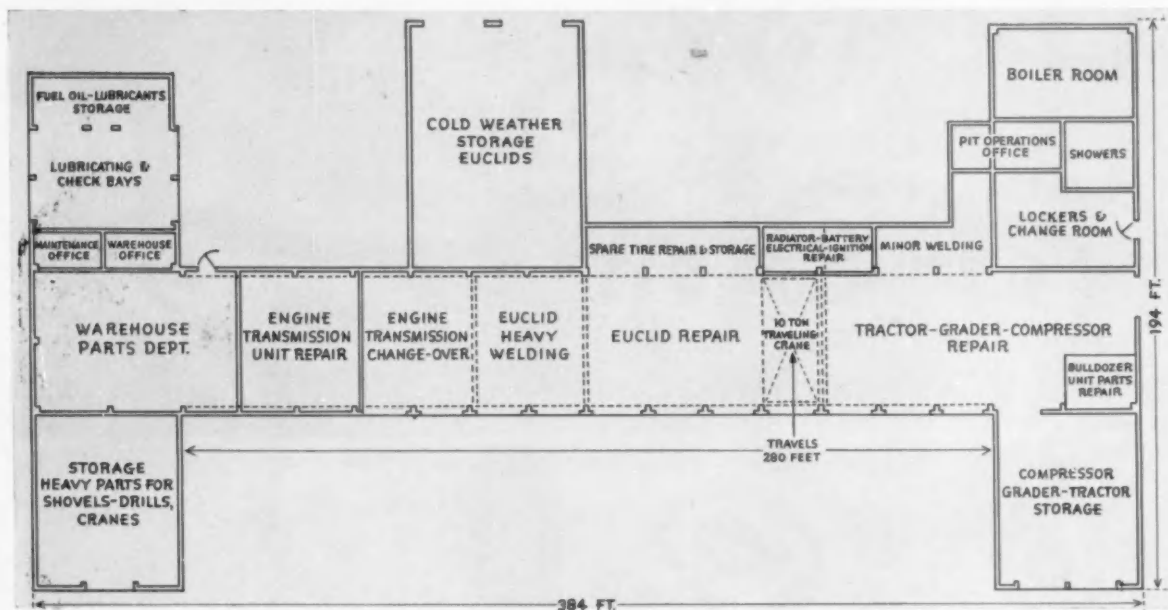
As might be suspected, a sub-

stantial part of the operation owes its very existence to the efficient operation of a fleet of heavy-duty trucks—in this case, 25 22-ton Euclids. One of the most interesting statistics we came upon during a recent visit is the fact that the Euclids roll 24 hours a day, 363 days a year. Like the post office's famous slogan—neither blizzards (of which there are many) nor

fog, nor any of the other elements slow them down. Every day save only Christmas and Fourth of July the 25 Eucs work 39 truck shifts.

When you stop to consider that the end of every shift the Eucs must be thoroughly inspected and lubricated, this is an extremely high utilization figure. Their maintenance is geared to the premise

(TURN TO NEXT PAGE, PLEASE)



Most maintenance is done in the shop's central core. Wings provide for storage

The "Eucs" That Never Wear Out

Continued from Page 67

that they will never wear out. Even under the torturous service involved many have already chalked up better than a million miles. The maintenance crew, headed by Steve Benchick, know that they will be replaced *only* on the basis of obsolescence. Their top grade maintenance can and will keep them rolling until new and better equipment spells out the final death knell.

Even running lights, starting motors and generators, often neglected in mining operations come in for careful attention on this round-the-clock, round-the-season operation.

But before we get into the details of the truck operation a brief background of the overall picture is both necessary and informative. It is told mostly in the accompanying photographs.

The Pit—2½ Miles Long

As ore mining operations go this is a relatively small project. Nonetheless, the "pit"—the great cavity in the earth's structure which has

been dug to expose the veins of ore—is approximately two and a half miles long, varies between 200 to 1600 ft in width. Millions of tons of just plain dirt and other foreign material, generally known as overburden, have been and are being removed to get at the ore.

Once the veins are exposed they are drilled with equipment not unlike an oil field drilling rig; then blasted loose with special explosive mixtures packaged in cans and placed in the 9-in. holes. Then it is up to the mammoth electric shovels to pick up five cubic yards (about 7 tons) at a time and load the ever-waiting Eucs.

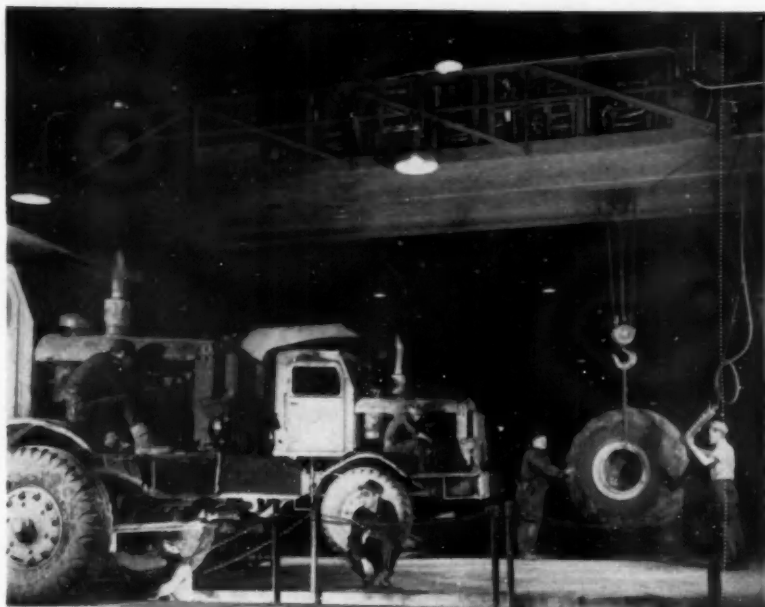
From this point the basic ore-laden rock is hauled anywhere from a half to three miles over company built and maintained gravel roads to the crushing plant where it is dumped into the primary crusher. This is a vast piece of machinery almost beyond description which breaks up rocks weighing up to six tons apiece into particles no bigger than eight inches.

Far down below, secondary crushers break up the material still further, deposit it on the first of a series of conveyor belts more than 10 miles in total length that carry it through the various stages of the crushing, concentrating and sintering plants until it is finally deposited, ready for the steel mill, in railroad cars. Then in trainload lots, an average of 4500 tons a day, it makes the 500 miles to Pittsburgh in about 32 hours.

A Sizeable Fleet

The automotive fleet consists of one P&H crane on a Walter four wheel drive crane truck, one Michigan crane, a mammoth snow plow, eight bulldozers, two Letourneau dozers, two roadgraders, two dynamite carrying trucks, four 6 x 4 trucks with 500 cfm air compressors, 22 service trucks, and the core of the fleet—the 25 Euclids. From here on the Eucs are the primary subject of our story.

Actually, they too, are relatively small as Euclids go. Their carrying capacity is 22 tons, their GVW about 85,000 lb with about 60,000 lb on the single rear axle fitted with dual 18x24.00 in. tires. They are powered by the Cummins



Ten-ton crane runs overhead for 280 ft of central area, handles complete engines, snow plow blades, other heavy components such as rear wheel shown here

NHRS super-charged diesel engine developing 300 hp at 2100 rpm. They can, and do, roll at an average 35 mph with a full load. Including stops at both shovel and crusher they average just short of 20 mph throughout their working day.

384-ft. Maintenance Building

Since the company has geared the operation around top flight maintenance as opposed to the wear-'em-out-and-replace philosophy often followed by contractors, the maintenance facilities are extensive. The shop building, shown in the accompanying layout plan and photograph, is 384 ft long with an average width of 65 ft, not including the several wings which have been added mostly for storage facilities.

A huge 10-ton crane can travel 280 ft of the overall length of the building, has proved itself an indispensable piece of equipment in handling complete engines, bulldozer blades, snow plows and other equipment not found in the average shop.

Maintenance Procedures

As might be expected maintenance procedures differ sharply from

those of the average over-the-road hauler. Heart and soul of the whole maintenance set-up is the daily inspection which takes place over the two pits installed in the wing at the extreme upper left hand corner (see plan) of the maintenance garage.

Here after every working shift the Eucs get a check on fuel, oil, and water as well as a complete chassis lubrication and a complete tire check including pressure and visual inspection. While these operations are going on there is also an inspection of clutch travel, slack adjusters, drive lines, wheel lug bolts, fan belts, air cleaners, batteries and other details. In short, experienced inspection crews "give it the works," consider driver reports, take care of everything they can right there and then, and refer anything else for immediate attention to the shop foreman.

"Do It Now"

A simple mimeographed form is used to cover such basic points as fuel, oil, lubricants, and anti-freeze added plus a space to check off lubrication, battery, and tires. A final column labeled "Remarks" furnishes the basis for orders to

mechanics in the shop. Whatever is needed is done on the spot whether it takes 15 min or a day. It seldom takes longer than one working shift, however, for built-up major components are always available for quick replacement.

For the Eucs there are two spare engines. One of them is always on the run-in stand ready to roll and ready for the crane to pick it up at a moment's notice. The other can be found in various stages of overhaul in the repair area designated for that purpose. Also on hand are transmission units, both manual shift and torque converter types, rear axle assemblies, and such "minor" units as a rear wheel assembly, which on the Euc looks like a 55-gal. drum and contains the final reduction gear assembly.

"Tachs" for the Record

In addition to the records kept on the daily inspection lanes every truck is equipped with a recording Tachograph. These are studied carefully not only for operating records but, very importantly, with regard to accumulated time on the truck. Everything at this operation is measured by hours rather than miles.

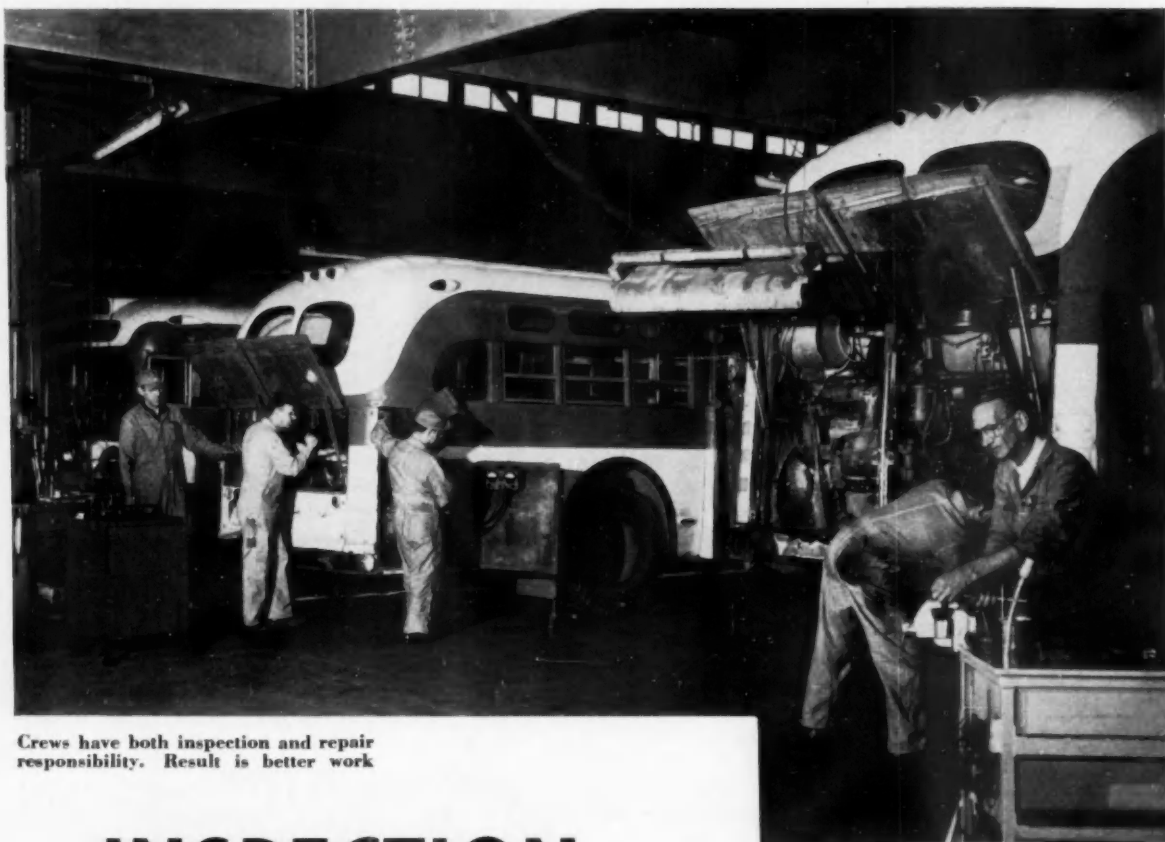
An average card from the Tachograph is extremely interesting, looks much like a cardiogram recording the heartbeat of a very healthy man. Throughout the 8-hr shift the graphs record a rhythmic beat of full speed ahead and stop. There are no traffic jams, no road delays, and only rarely a wait of more than a minute or two at either end of the line.

Helping to maintain this rhythmic beat is a very interesting bonus plan based on total output for each day of operation. There are no individual incentives but everyone knows there will be a little more in the paycheck if the day's output is up to par or better.

Lube Program

Back to the maintenance routines, we found that at from 80 to 120 hours, depending largely on weather conditions, engine lubricating oil is changed. When it's dry and dusty the maintenance problems increase. At about the same time the oil is changed the air filter is ser-

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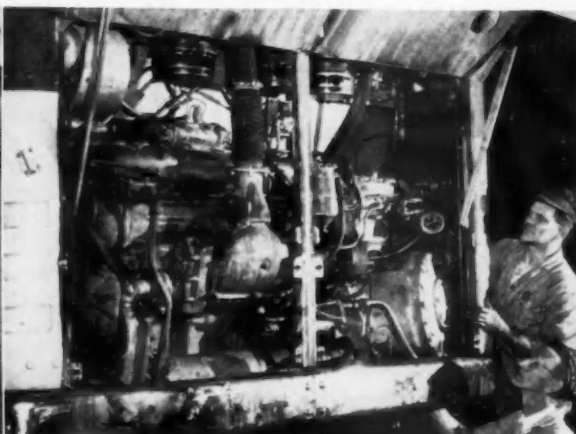


Crews have both inspection and repair responsibility. Result is better work

INSPECTION

The Vital Tool for

Below. One way mileages are extended between inspections is through crankcase oil study. At right. Here's one of South Suburban's inspection-repair teams at work on a diesel coach engine



Bus fleet checks coaches at night, combines inspection and repair work to improve maintenance procedures. Result: More miles between checks

By Edward Marcinski, Manager of Maintenance
South Suburban Safeway Lines, Harvey, Ill.

IN MY ESTIMATION there are two kinds of inspections being used today in bus fleet shops—those set up to keep the shop man busy and those worked out as the core of a preventive maintenance program. The former is a ritual which wastes manpower and makes parts changers of the repair crews. The latter, the effective inspection, is a system utilizing the teams as both diagnosticians and repairmen. They check a coach from stem to stern, locate all defects and maladjustments or wear—and make the repair on the spot.

Experience with both methods has convinced us that only by combining inspection and repair into one highly efficient team can we meet the rigid requirements of Transit Pars.

PAR's Challenge

We operate 81 GM coaches in the Chicago suburbs at Harvey, Ill., to Chicago. While we're small, we operate 3½ million miles annually—so we've got to be efficient. When Mr. Dittmar's Transit Pars came into the picture back in 1950, we found ourselves in trou-

ble, maintenance-wise. We had to streamline work, reduce manpower, increase parts salvage and cut costly road delays in order to get our maintenance costs down where they should be.

We instituted a three-part program which has accomplished the job we set out to do. We installed a nightly check of coaches; we streamlined the inspection forms and combined the inspection and the repair procedures; and we extended the periods between inspections in line with safety and the utmost in parts life.

Step 1, Night Checking

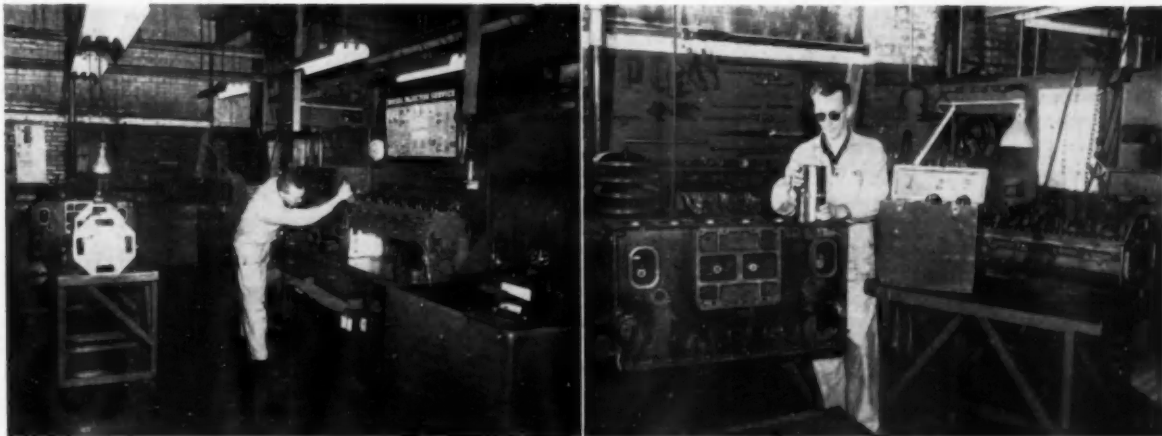
With our combination inspections we have reduced our maintenance personnel to 35 men—that represents a decrease of 43 per cent in maintenance personnel. In 1950, we had 33 man hours per 1000 vehicle miles. For the year 1955, we were down to 24 man hours per 1000 vehicle miles. In 1950, we averaged 9078 miles per road failure (we charge everything but flat tires and accidents). In 1955, we averaged 16,920 miles per road failure. The reduction in miles operated from 1950 to 1955 was only 14 per cent.

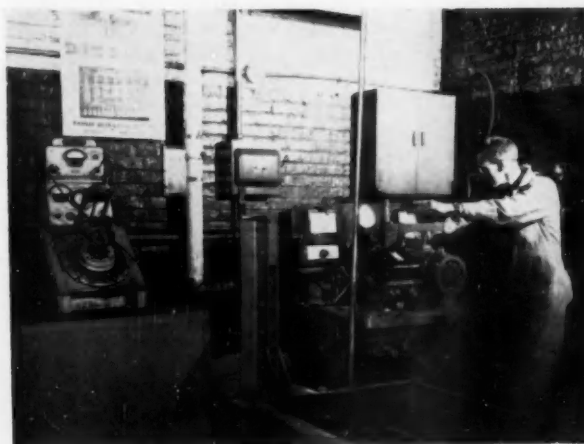
First change was the checking of buses at night. Up to that time, our night men were checking all

(TURN TO NEXT PAGE, PLEASE)

Shooting PAR

At left, Diesel injectors undergo balance check. Note chart on wall for quick reference. Below, Engine reassembly features matched piston sets shown in their storage boxes on table





Electrical component testing is thorough, too. Shown here are the fleet's regulator tester and distributor bench



Transmission stand shown here speeds rebuild jobs, is typical of work aids available in South Suburban's garage

INSPECTION . . .

Continued from Page 71

buses three times each week. To perform this work the buses had to be spotted on the pit. Then, brakes were adjusted very quickly, and everything else got a fast look because time did not permit the men to hesitate too long on any one bus. The night repair men never did have any great amount of work because the inspectors didn't have time to look for the real troubles.

That program was changed to checking all buses once each week. The odd numbered buses went over the pit one night and the even numbered buses went over the pit the following night. This program permitted the men to check the buses properly, and allowed them more time to make the adjustments necessary to prevent repairs. The new method of night checking resulted in good preventive maintenance and a reduction of six men.

Step 2, Inspection

The next step in revising our methods and procedures was major inspections, which are performed by the day men. The first approach to that problem was to hold a meeting with all the maintenance men. The request at that meeting was for all the men to

take the regular inspection form and study it, cross out what they thought was unnecessary, and write in what they considered important to a good inspection. That particular program took one month before it was completed. Our present inspection form resulted from that open meeting. That still wasn't the complete answer. We had to have another meeting.

At the next meeting we told the men that we were making one more change. That was the combining of inspections with repair work. The inspection crews were to become repair crews as well as inspection crews. The advantage of a combined crew was that the inspection and repair work was done at the same time. This resulted in quality work, it eliminated the conflict between inspectors and repair men. There was no misunderstanding of what was necessary to be done. There was no shifting of responsibility. Confusion was eliminated. Since our inspection and repair crews were combined a reduction of maintenance personnel was accomplished.

Step 3, Mileages

The next step in reducing maintenance costs was a lengthening

of inspection mileages. At that time, we were inspecting coaches on a 6000-mile interval, with major work done on an 18,000-mile basis. Our men wanted to extend inspections to 8000 miles and to add another inspection to the program to be performed at 32,000 miles. After nine months of this combined inspection and repair system we felt that we could raise mileages once more.

The result is our present program. We have a 10,000 and a 20,000-mile inspection that are alike. On a 30,000-mile inspection we add a few more items. We follow that up with a 40,000-mile "A" inspection, which is when the bus is inspected still more thoroughly. It is then that we change our fuel filters, flush the Wagner compressors, and check the wind box pressures. After each 40,000 miles, we go back to the 10,000, 20,000, and 30,000-mile inspections, but when the bus accumulates a second 40,000 miles, we call that a 40,000-mile "B" inspection. The only difference between our 40,000 "A" and 40,000 "B" is that on the "B" inspection we change the air cleaners and the transmission fluid.

Crankcase Oil Tests

We were able to extend periods safely between inspections only because we could determine engine condition through periodic

(TURN TO PAGE 122, PLEASE)

How to Meet the New ICC Brake Requirements

Here, spelled out in simple language, are the rules. On following pages you will find some of the valves and systems that meet the requirements

VInterstate Commerce Commission's emergency brake regulations, issued in late May, spell out in considerable detail the modifications and changes operators must make in their braking systems.

What ICC wants is pretty definite. How to get it is quite another question. The ICC has attempted to set up overall objectives, leaving the field open for brake manufacturers to meet various requirements as best their engineering skills can muster. It is a logical and very fair approach.

But for this very reason there are several different ways to skin the cat. In the case of straight air brakes—most commonly used on heavy duty combinations—all of the requirements can be met by the installation of several different valves incorporated in the braking system. These are generally available from brake manufacturers and independent suppliers. The same applies to vacuum systems and to combinations of vacuum and air, but with different valves and arrangements.

In addition, many of the emergency application requirements can be met by the installation of totally separate activating devices. These are generally classified as hydraulic or explosive and are fitted directly on the diaphragm push rod. Also it is indicated that an electric brake system on the trailer can meet all requirements.

Highlights of Basic Essentials

The following discussion highlights the basic essentials of the various ICC requirements. Some of them are required for *all* vehicles used in combinations, hence provide a logical starting point. Then we will have a look at some of the *optional* ways of meeting the additional requirements.

If you don't have a copy of the regulations handy you will find them reproduced in full beginning on page 17 of the June issue of *COMMERCIAL CAR JOURNAL*. Some equipment from individual manufacturers is shown in detail on following pages. Our research reveals, however, that some manufacturers are currently studying the regulations themselves with an eye on revising existing equipment. Hence some of the most important will be outlined in future issues.

Regardless of what type of equipment you now have, the new regulations call for at least the following:

1. A *check valve* between the reservoir and the source of power. On the air brake system this means a one-way check valve between compressor and tank. On vacuum systems it means a similar valve but in reserve position between manifold and tank. This, as can readily be seen, will serve to hold the pressure in the tanks and lines in the event of failure of this important line, a failure which usually occurs at the compressor or manifold. If a tractor is equipped with two reservoirs for storing compressed air, then the check valve should be between the first and second tank rather than be placed between the compressor and the first tank. This will allow the use of a "sludge" tank, which acts as a buffer for the check valve and greatly reduces the wear on that valve. On most late model equipment this requirement has already been met but the effective date is right now—June 30, 1956.

2. A *reserve tank* (either vacuum or air) big enough to provide sufficient brake capacity to stop the vehicle within prescribed distances even if the engine stalls. This is a function of brake design. In most cases the requirement has also been met on recent vehicles. But particularly on vacuum systems, it's a good idea to check with your supplier. Again the effective date is June 30.

3. A "*no-bleed-back*" relay emergency valve (or similar device) on the trailer where air brakes are used. This has the primary function of preventing air from the trailer's emergency air reservoir to escape back through the supply line in the event of failure, from whatever cause, of the brake system. The relay emergency features also activate the trailer brakes when the air pressure in the tractor drops to a predetermined level, regardless of whether the leak is a slow one or a rapid one. In the past most relay valves function only a very sudden drop in pressure. This is required for new vehicles only. Effective date, Aug. 31, 1956.

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New ICC Brake Requirements

Continued from Page 73

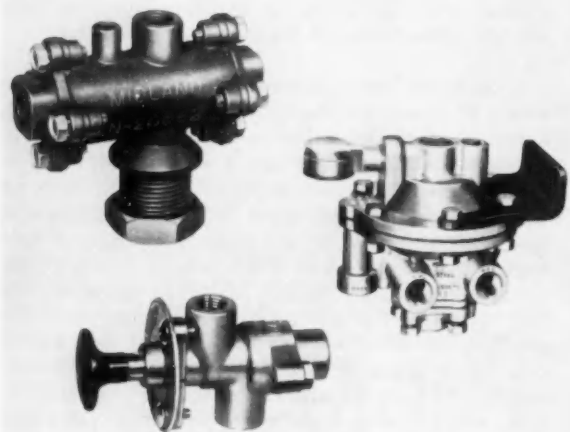
4. An audible or visible warning signal to indicate low pressure or insufficient vacuum. This can be of the buzzer, bell or light variety or a wig-wag signal, but the gage itself is definitely not enough. Effective date for vehicles with vacuum

brakes is Jan. 1, 1957.

5. A breakaway valve on the tractor which will provide effective tractor brakes in the event of breakaway of the trailer. This is a tractor protection valve which has been required on new vehicles since

1953. It is required for all tractors after Jan. 1, 1957.

6. An emergency valve on the trailer which will automatically activate the trailer brakes and hold them on for at least 15 minutes. (This is not a new requirement.) This can be accomplished in a variety of ways. It can be a function of the emergency valve with its relay functions. Or the requirements may be met by an electric

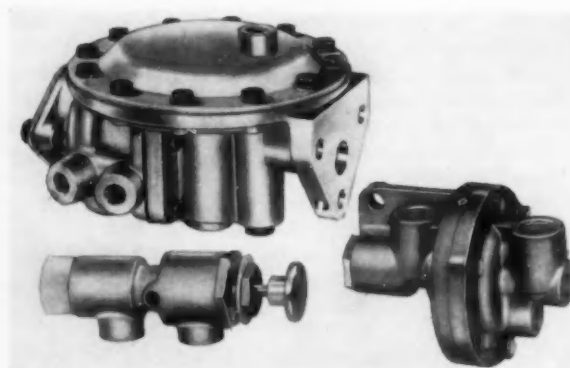


Midland Steel Products

Midland has two basic types of tractor protection in the event of trailer breakaway. One system uses air-operated shut-off valves in each line to the trailer and a dash control valve for triggering the shut-off valves. The other system employs an air-operated shut-off valve in the emergency line and a relay valve on the tractor to control the trailer service line, and a dash control valve for triggering the shut-off valve.

Control with each system varies from automatic protection with full retention of tractor brake pressure to a combination of automatic retention of 25 psi in the tractor system and full retention through manual means.

This system enables the driver to retain full tractor protection in the event of a trailer breakaway by operating the dash valve and also provides for automatic retention of adequate pressure without operating the dash valve. The driver also has full control of the trailer brakes through the dash valve in the event of service line failure.



Wagner Electric Corp.

Wagner's relay emergency valve trailer provides for a metered stop on a slow leak-down of the air system and a positive full emergency application on trailer breakaway or line rupture. When air pressure in the air brake system, other than the pressure in the tank protected by the valve, falls to approximately 50 psi, the valve produces an automatic application of the brakes it protects. On a slow leak-down, brakes are applied in a manner which produces a gradual increase in brake drag. The drag alerts the driver in sufficient time to take necessary measures to stop the vehicle. In the event the pressure drops to 25 psi, the full tank pressure is applied to the brakes. This "dynamiting" or instantaneous brake application occurs in the event of a trailer breakaway, a line rupture, or at the driver's discretion.

The tractor air-line protection valve, lower right, automatically isolates the tractor air supply, retaining normal tractor brake control in the event of a pressure loss on the trailer or a trailer breakaway.

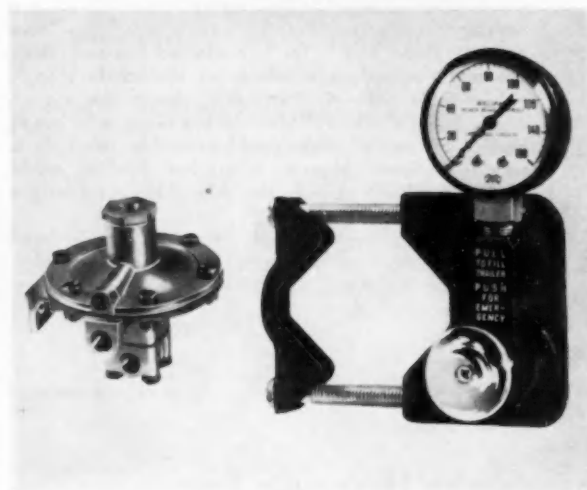
circuit which can activate electric brakes, a controlled explosive or a hydraulic piston. Both of the latter are applied on the push rod at the diaphragm. Effective date: June 30, 1956.

7. Two means of activating the emergency features of the trailer brakes. One must be automatic coming into action when pressure drops to a maximum of 45 psi and a minimum of 20 psi. The other

must be a manual control. This also can be accomplished in a variety of ways. The automatic feature must be activated by a pressure sensitive device which in turn can activate the emergency relay valve or any of the other equipment mentioned in the paragraph above. The manual feature requires a lever or switch within easy reach of the driver. This can be a button which activates any of the various

emergency systems, a rheostat lever for the electric brakes or a pump for the hydraulic system. Effective date of this feature is Aug. 31, 1956 for new vehicles and Jan. 1, 1957 for all vehicles.

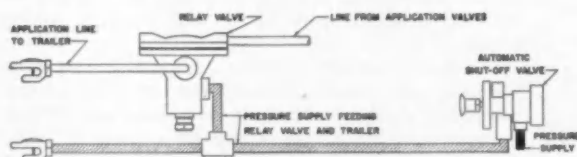
Here and on the next two pages are some of the valves and systems that can be incorporated into your present brake system to meet these requirements. Others will appear in future issues.



Power Brake Equipment Co.

The Williams air brake safety kit is comprised of a relay control valve and a cab-mounted manual controlled valve along with a pressure gage to show trailer tank pressure. The system seals off both lines, service and emergency, in event of trailer breakaway and makes normal tractor air pressure available to the driver. It incorporates the no-bleed-back principle. One valve is installed on the tractor and one on the trailer so that the trailer brakes too are actuated in event of breakaway. This valve also simplifies coupling as it serves to close both lines automatically upon removal of the couplers.

The driver can instantly place trailer brakes in emergency application by pressing the dash button and can release the brakes by pulling out on the dash mounted control. This also provides a convenient means for the driver to test the trailer emergency valve for proper operation. This valve eliminates the need for shut-off cocks and simplifies trailer coupling operations.



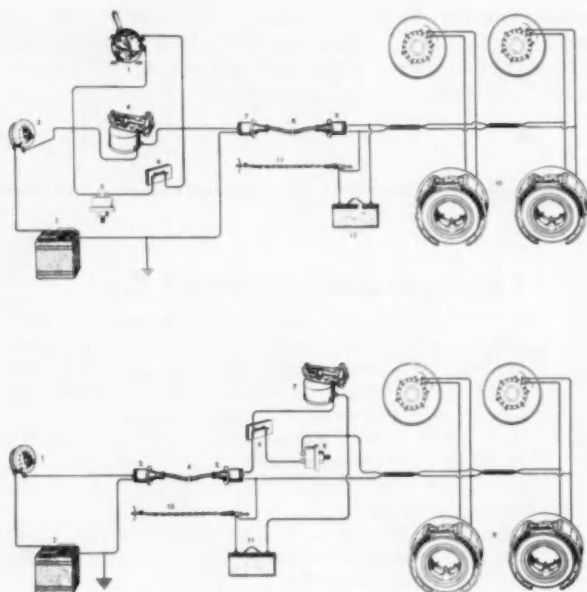
Homer T. Seale, Inc.

The Sealco tractor breakaway kit provides full tractor braking in the event of trailer breakaway, automatic trailer emergency brake application when the tractor air supply is reduced to 25 psi, and also supplies cab-mounted manual control of the trailer brakes for a second means of trailer control. The no-bleed-back feature is incorporated in the emergency valve. This valve also provides for full tractor braking when a leak occurs at the trailer reservoir, hoses or brake chambers because of the restricted acceptance of air through the valve at slightly less than the capacity of the compressor.

The kit complies with all applicable regulations, operates with all types of trailer air equipment and is automatically tested each time the trailer is uncoupled. It eliminates the need for shut-off cocks and thus simplifies driver routine when picking up a trailer. Full tractor tank pressure is available when the valve is closed. Another feature is a minimum loss of air pressure (5 lb) off tractor upon breakaway.

New ICC Brake Requirements

Continued from Page 75



Warner Electric

Warner provides a safety breakaway switch which utilizes a separate power source on the trailer (hot shot or wet cell battery). The actuation of this breakaway switch means instant brakes on the trailer.

Controls should be on the mounted tractor. Thus in the event of a breakaway the only connection between the tractor and trailer is an electrical cable. When breakaway occurs, the safety breakaway switch sets the brakes. The basic tractor braking system (air vacuum or hydraulic) is in no way affected. This provides two independent braking systems without the failure of one affecting the other. However, if the controls are mounted on the trailers, then the necessary tractor protection valves as outlined in the regulation would have to be used.

Warner uses a switch that detects low pressure in the tractor air system to provide an automatic electric trailer brake application. This switch can be wired to give either an emergency "panic" stop or a resistor can be put into the circuit to give a more gradual stop. This latter is preferred because there are many situations in which an immediate stop is not entirely safe—for instance, should the system reach the low pressure level as the rig is in a heavy traffic, a "panic" stop would probably result in a serious accident whereas a gradual braking would allow the driver to pull to the side of the road before coming to a stop.

Warner recommends that either an electric hand control be mounted on the steering column, in addition to the low pressure switch, or a combination controller be installed.

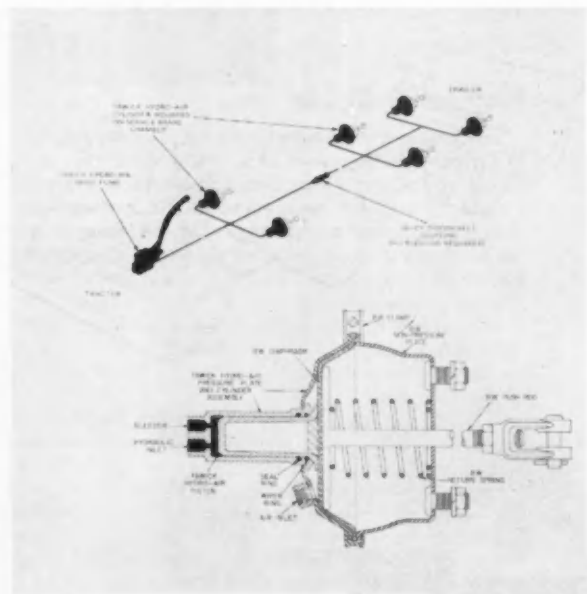
Fawick Hydro-Air System

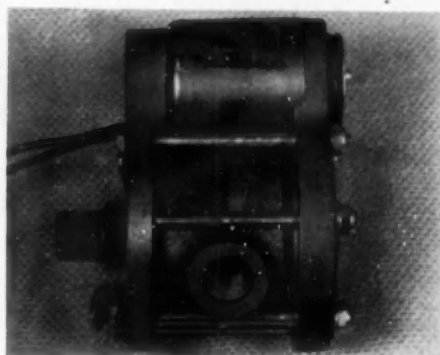
The Fawick Hydro-Air Emergency Brake System provides independent actuation of the service brakes with equivalent braking effort of the service brake system. It is actually a hydraulically-operated secondary brake system, which provides positive controlled emergency braking and can be applied to vehicles equipped with air or with vacuum service brakes.

The system consists of fittings, tubes and lines leading to a hand pump installed in the cab. The existing push rods, mechanical linkage and shoes are utilized. Actuation of the brakes is through a pressure plate with its own hydraulic cylinder which is attached to the standard rotochamber or cylinder assembly. Fawick says that automatic controls, which are now available, provide for automatic actuation.

Here's the way the brake works. Hydraulic brake fluid is drawn from a reservoir into a hand pump where pumping action by the driver supplies the cylinders and pistons with sufficient pressure and volume to force the push rods into an applied position. Pressure is released by lifting the hand control lever. After brake application and full release of brake actuation, returning the hand control lever to its down position readies the pump for the next application.

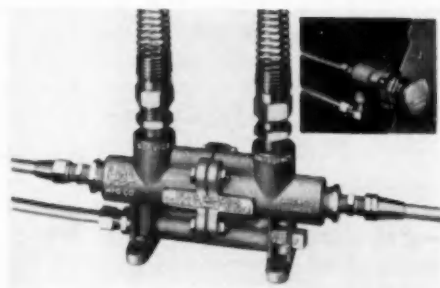
(Obviously an automatic actuation must be used in conjunction with this hand pump. Details on this device will be discussed in future issues.)



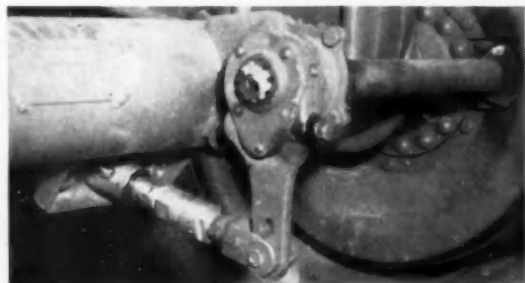
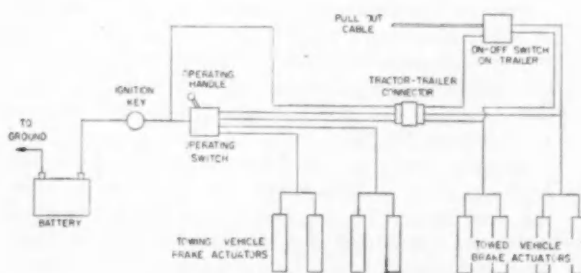


The Everready emergency air brake system makes use of an electrical impulse to actuate an emergency air valve upon loss of air pressure. Heart of the system is a solenoid-controlled pilot-operated three-way valve mounted in the auxiliary tank. In normal operation service air passes directly through the valve to the brake diaphragms. A pressure switch incorporated into the valve senses a reduction in air pressure (that is, when a leak or failure has occurred). Battery current then closes the valve and opens an emergency circuit to the auxiliary tank for full application pressure.

An override switch is furnished, providing for manual operation in one position, automatic operation in one position, and release in the third position. Setting returns to automatic unless the switch is held in release position manually.



The Berg Manufacturing & Sales Company, Inc., is manufacturing a dual control breakaway valve that protects the tractor air brake, both automatically and manually, system against loss of air pressure occurring in the trailer air brake system. The breakaway valve seals the tractor's air system automatically, in an emergency or if the driver forgets, when trailer air lines show a loss of air pressure below approximately 50 lb., due to leakage, improper glad-hand connection or damaged air lines.



Talco's approach to the emergency brake requirement is through a cartridge actuated device installed in the slack adjuster which applies the brakes upon firing the charge of propellant powder. This brake actuator consists of a piston, a cylinder, a propellant charge and an electrically initiated ignitor. The actuator is furnished as an hermetically sealed unit installed on the foundation brakes in lieu of the push rods. In normal operation they function as the push rods. For vacuum brakes pull type instead of push type actuators are available.

When failure of the service brakes occurs, the brake actuators are initiated electrically, the propellant is ignited and the resulting gases extend the piston, thus operating the slack adjusting arm and applying the brakes. The brakes will remain fully applied for over 24 hours unless released. Release is accomplished by loosening the ignitor to bleed the gas from the actuator just as air chambers must be bled to release brakes applied by the automatic features of the air brake system. These actuators have been designed for replacement on an exchange basis rather than re-charging by the operator.

New Certification Program Sets

Professional Standards for

You can now gain national recognition as a safety "professional". Truck, bus, and safety organizations have approved standards which the National Committee for Motor Fleet Supervisor Training will use to grant certificates to fleet safety men who have the required training and experience. This article presents the detailed requirements, tells you how to obtain your certificate.

V NEW STANDARDS designed to give professional status to safety directors, motor fleet safety supervisors, and trainers of commercial drivers have recently been announced by the National Committee for Motor Fleet Supervisor Training. They set minimum requirements of experience and training for each job, provide for a nationally-recognized certificate to be awarded to those who qualify.

As a project of the National Committee, the certification program has the support of 18 organizations connected with the highway transportation industry. Among them: American Trucking Assns., National Assn. of Motor Bus Operators, Automobile Manufacturers Assn., National Safety Council, National Assn. of Automotive Mutual Insurance Companies, Assn. of Casualty and Surety Companies and others.

Proof of Qualifications

Purposely set high, the standards are part of a long-range program aimed at giving fleet safety personnel the recognition they deserve as trained professions. Effects of the program will include making it possible for trained safety men to offer prospective employers nationally recognized proof of their qualifications, and aiding employers in hiring trained safety personnel and in developing training programs for promotion of members of their safety departments.

The standards were drawn up by a special committee of the National Committee, headed by Paul H. Blaisdell, Assn. of Casualty and Surety Companies.

Other members of the committee included: Carlton Alexander, Richard O. Bennett, Max Jensen, H. K. Halbrooks, Karl Richards, L. E. Spencer, M. R. Youngman, Fred E. Berger, G. D. Sontheimer, and George Deal.

How to Apply

Requirements for certificates in each of the three categories are presented in detail beginning on page 79. Application forms for certification may be obtained from any of the organizations participating in the National Committee or from: The Editor, COMMERCIAL CAR JOURNAL, Chestnut and 56th Streets, Philadelphia 39, Pa.

Application forms should be completed and mailed with proof of qualifications and a check to cover the certification fee to: Committee on Certification, National Committee for Motor Fleet Supervisor Training, Institute of Public Safety, Pennsylvania State University, University Park, Pa.

Who Decides on Certification

All applications will be examined by a committee of the National Committee for Motor Fleet Supervisor Training. This committee will have seven members: one from the educational field, one from the truck field, one from the bus field, one from the insurance field and one member at large, all from among member organizations of the National Committee. The remaining two members will be representatives from the ATA Council of Safety Super-



visors and the Commercial Vehicle Section of the National Safety Council and are to be employees of motor carriers.

The Certification committee will have its first meeting this September. Deadline for applications to be considered at this meeting is Sept. 1. The next meeting will be in April, 1957, and succeeding meetings will be in April and September of each year. Deadline for applications to be considered at the April meeting is April 1.

Committee Powers

In addition to issuing certificates to successful applicants, the Certification committee may determine whether an unsuccessful applicant for one certificate can qualify for the next lower class of certification. If the committee agrees that the applicant qualifies for the lower category, the committee secretary will contact the applicant and ask him if he wishes this certificate. If he does, it will be issued to him without further consideration by the Certification committee.

Powers of the Certification committee include complete jurisdiction over the form in which applications will be accepted, the right to request additional information from applicants to aid in considering its decision, and the right to deny certification to any applicant who, in the committee's opinion, is lacking in moral character and would not be a credit to the safety field, regardless of whether the applicant meets all other qualifications. In the case of such rejected applications, the committee will make its reasons for rejection known only to the applicant. In addition, the committee will have the power to establish rules governing revocation of certificates. At present decisions of this committee on matters of certification are final and without appeal to the National Committee on Motor Fleet Supervisor Training.

Applicants who qualify in their category will receive certificates bearing the name of the National Committee for Motor Fleet Supervisor Training, showing the name of the position for which the certificate is granted and stating that the person certified has been found qualified for the position by reason of experience and education in the safety field. The cer-

tificate will be signed by the chairman of the Certification committee and countersigned by the secretary-treasurer of the committee. Each certificate will be numbered and a record will be kept of the number issued to each person certified.

Requirements for certificates as established by the committee are as follows:

Director of Safety

Applicants for the Director of Safety certificate must obtain a rating of at least 14 points on the following:

Compulsory Requirements (total value 10 points).

(1) A college or university graduate with principal undergraduate degree emphasis, or graduate training in: economics, transportation, safety education, traffic engineering, mechanical engineering, or industrial engineering (5 points), and (2) At least three years experience as a Motor Fleet Safety Supervisor, or in a responsible position directing fleet safety operations or a program of preventive maintenance and supervision of driver safety activity (5 points).

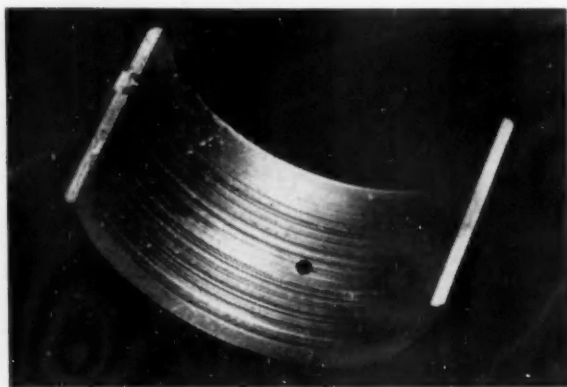
Or

(1) Five years experience as a Motor Fleet Safety Supervisor or in a responsible position directing fleet safety operations or a program of preventive maintenance and supervision of driver safety activity (6 points), and (2) Completion of a standard Motor Fleet Supervisor training course as presented through the National Committee for Motor Fleet Supervisor Training, consisting of either the standard 5-day course or both 3-day courses (4 points).

Or

(1) Four years of administrative experience in (a) a governmental agency charged with vehicular traffic control and/or administration of safety regulations governing the use of commercial vehicles, or (b) Safety Engineering, or, (c) Traffic Engineering, or, (d) the conduct of commercial vehicle safety activities and projects in a commercial vehicle association directly relating to any of the foregoing, or, (e) the establishment and supervisory control of commercial vehicle fleet safety programs for an insurer.

(TURN TO PAGE 140, PLEASE)



1. Dirt caused this—nearly 43 per cent of failures



2. Misassembly—a misaligned locking tip caused this

Know Your Bearing Failures

By **Walter Thill**, Asst. Chief Engineer, Federal-Mogul-Bower Bearings, Inc.

Causes of Bearing Failure

Cause	Per Cent
Dirt	42.98
Misassembly	13.43
Misalignment	12.66
Lack of Lubrication	10.07
Overloading	9.47
Corrosion	6.33
Other	5.06

IN AN EXAMINATION of hundreds of sets of bearings over the past seven years, the major causes of early distressing have been recorded. The bearings analyzed may have been in passenger car, commercial, farm, or industrial engines; however, the summary of major causes expressed in a percentage is shown above.

The general classification "dirt" still heads the list, although the percentage has decreased materially in years past. Dirt can take the form of sand from any of a number of sources, corundum usually from grinding or honing some parts and then not cleaning

the job out well enough or iron or steel chips of varying sizes depending upon where they came from. Aluminum is sometimes enlodged into the bearing surfaces as from scuffed pistons. The bearings, of course, can contain any or all of these forms of dirt in varying quantities.

Dirt in Bearings

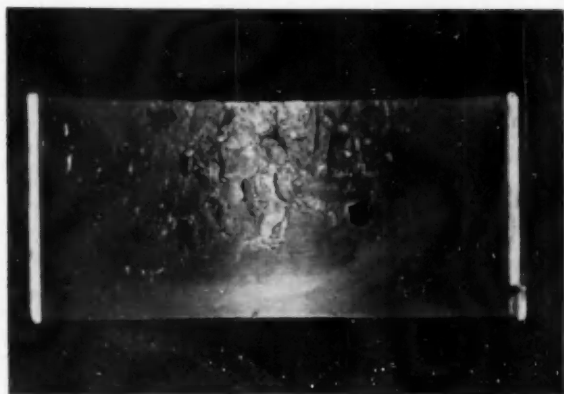
This public enemy number one—dirt—is also the same enemy that wrecks other moving parts. In engines—valves, valve guides, piston rings, pistons, rocker arm bushings, and so on.

The presence of dirt can mean that either insufficient cleaning equipment is a factor, or the existing equipment is not being used correctly. It can mean also that perhaps the mechanic has not been sufficiently trained or has become careless in his practices. There are many problems involving dirt and its removal alone.

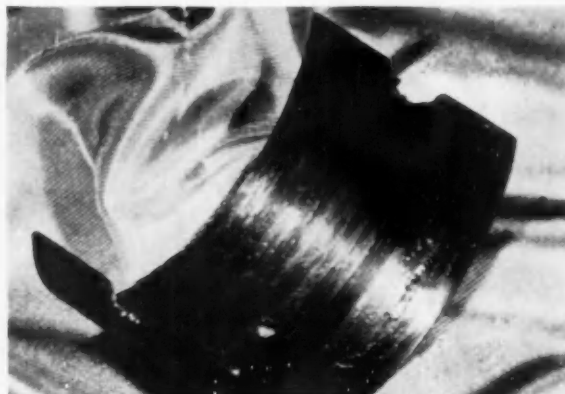
Dirt in bearings (Fig. 1) can cause literally any kind of damage. It can cause bearings to pound out, to show voids in the linings or to only become cracked. It can cause excessive shaft wear. Lodged between bearing back and housing, dirt can cause bearing distortion, close up the oil clearance and cause many other forms of distress.

Bearing Misassembly

Misassembly of bearings is one fault that most times can be blamed upon the mechanic. A locking



3. Misalignment of the crankshaft or rod produced this



4. No lubrication, maybe insufficient oil clearance

Proper diagnosis of breakdown is one of the most important steps toward reduction of recurring bearing troubles. Here are typical bearings abused in service

lip that was not nested into its recess is shown in Fig. 2. Bearings reversed, upper for lower, put in backwards, the wrong bearings, wrong undersize are just some of the things that cause short bearing life.

Bearing Misalignment

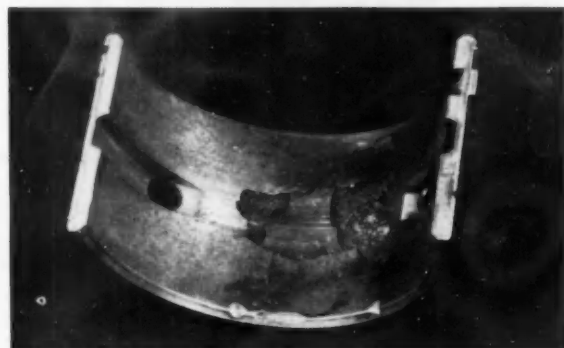
Misalignment (Fig. 3) is what the name implies—the use of some component that is not straight or is bowed or bent. This can be crankshaft, crankcase, connecting rod, or any combination. The mechanic can be but is not always to blame for the use of such parts. In the example shown, the connecting rod was apparently bent to cause localized load concentration on one bearing edge.

Lack of Lubrication

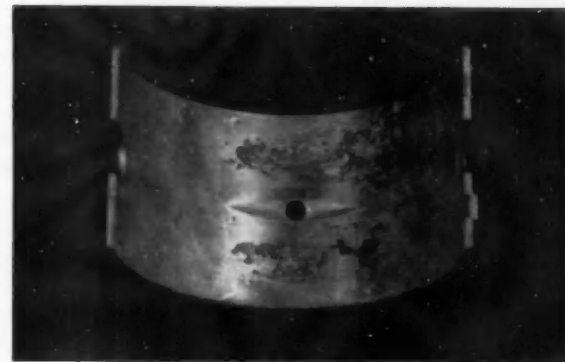
The lack of lubrication (Fig. 4) can be the fault of the mechanic, the regular maintenance man (if there is one), or of the driver. The mechanic comes into this picture first because inadequate oil clearances cause a lubrication distress in bearings. Also, the mechanic can be responsible for charging the engine oil lines with oil prior to turning it over. Many premature bearing failures are due to a "dry start."

Once the oil sump is filled, the duty to keep it full rests either with a maintenance man (in some cases) or directly with the driver. In some instances, the

(TURN TO PAGE 126, PLEASE)



5. Overloading or lugging causes this type of failure



6. Corrosion resulting from breakdown of crankcase oil

7. Here's a complete bearing failure beyond diagnosis





SHOP HINTS

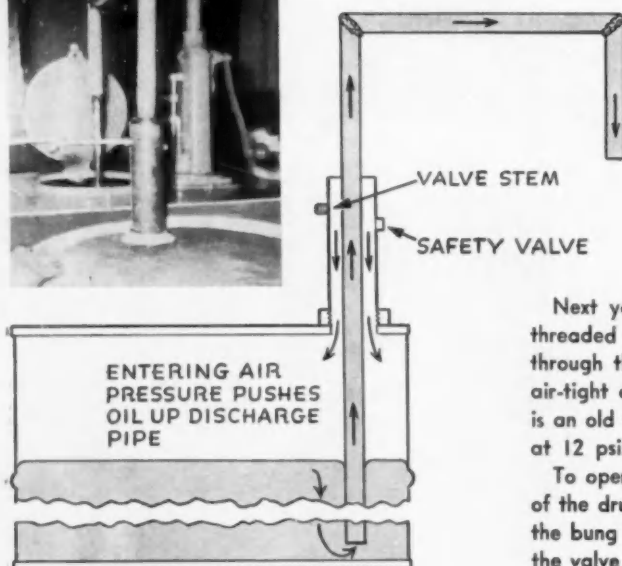
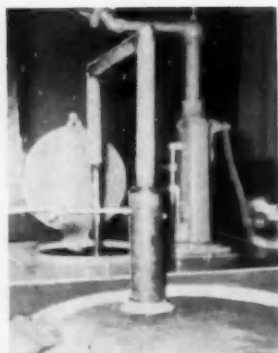
\$10 →

\$25 ↓

Send us a short description and photograph or simple sketch of the shop-made maintenance short cuts you are using. We'll pay \$10 and \$25 to those who submit good ideas

Air Pressure "Pumps" Out Oil Drums

By C. L. Fernandez, Maintenance Superintendent, Tampa (Fla.) Transit Lines



Here is a drawing and a photograph of an air-powered "pump" which I have designed to empty the contents of most any 55-gal oil drum into various type dispensers. It starts with a piece of 1-in. pipe long enough to reach from almost the bottom of the oil drum to the shop dispenser. This is bent or welded to provide the necessary bends and curves.

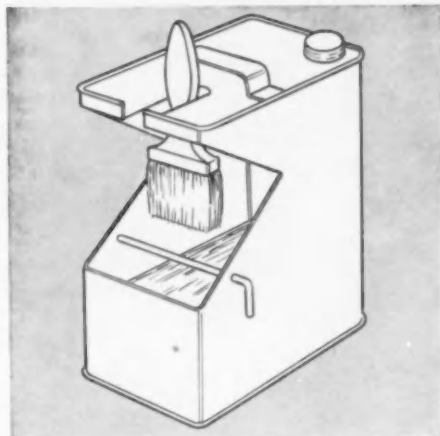
Next you'll need a 10-in. length of 2-in. pipe with one end threaded to fit the oil drum's top bung hole. The 1-in. pipe runs through this as shown, and the top of the 2-in. pipe is welded air-tight around the 1-in. pipe. Also welded into the 2-in. pipe is an old truck tube valve stem and a check valve set to release at 12 psi.

To operate this "pump", just remove the bung from the head of the drum, insert the threaded 2-in pipe and screw tightly into the bung hole. Put about 5 to 8 lb of air into the drum through the valve stem. Be sure the welded seams are all air tight.

Cleaner Container Is Made from a Can

By Charles H. Willey, Route 7, Penacook, N. H.

An old gallon-size, tin can can be converted easily into a very handy brush and solvent or cleaner container, as shown in the sketch. Cut a deep notch in the side for access to the solvent or cleaner, cut a slot in the top to hold the brush and add a wiper rod to brush off excess liquid from the brush. Hanging the brush in the slot by the handle keeps the bristles straight, lengthens the brush's life.



Half Rubber Ball Collects Honing Dust

By Roy K. Gross, International Harvester Co., Amarillo, Texas

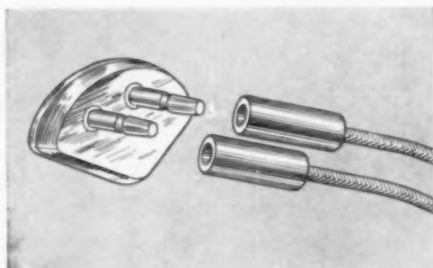
When honing for engine ring and sleeve jobs, my short cut for doing a quicker and cleaner job is to cut in half a hollow rubber ball of slightly larger diameter than the engine bore. Install this at the lower end of the cylinder and turn up the crankshaft to hold it snugly in place. I find that it traps a high percentage of the loose hone dust, saves about an hour's time in cleaning the lower part of the engine.



Gadget Speeds Stop Light Repair

By Robert L. Woolf, Asst. Shop Foreman, Div. of Hwys., Sacramento, Cal.

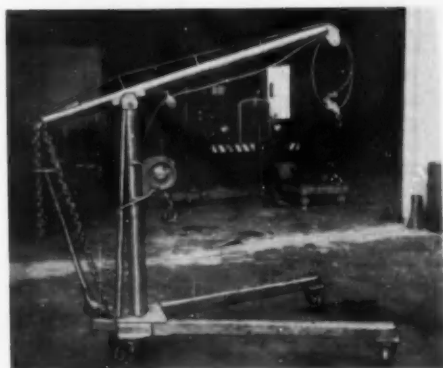
I use this tool to diagnose stop light troubles in about half the time usually required. It is simply a connector into which are plugged the two wires removed from the stop light switch on the vehicle. This eliminates the switch from the circuit, localizes the trouble in the switch (if the stop light works) or in the wiring, lamp or bulb (if the light fails to work). The gadget is the bakelite terminal plate from a Chevrolet mechanical stop light switch with a small piece of brass shim stock soldered across the terminals on the back.



Scrap Parts Become a Portable Crane

By Tony L. Moniz, O. K. Trucking Co., Oakland, Cal.

Here is a picture of a very useful crane I made from scrap available around the shop. Construction details are readily apparent in the photograph. We use it to pull engines or transmissions. The wheels swivel in all directions to make it readily portable. The gears on the cable spool are cam and generator gears from a 501 Autocar gasoline engine.



NEW

PRODUCTS

THE LATEST DEVELOPMENTS IN PARTS, ACCESSORIES, TOOLS AND EQUIPMENT FOR THE FLEET FIELD, DESCRIBED IN BRIEF FOR YOUR CONVENIENCE

P1. Safety Switch

C. E. Niehoff & Co., Chicago, has just released its "Saf-T-Flash," a switch that operates automatically when foot-pressure is released from the accelerator pedal. Instantly, the vehicle's stop lights flash on to warn of a stop or slow-down. Carburetor vacuum power operates the switch. The signal, which can be easily adjusted, is set to remain on for 2 to 5 sec. The time depends on the speed of the vehicle and the degree of "let-up" on the accelerator.



P4. Fuel Filter

Alondra Sales, Inc., Los Angeles, Cal., announces the "Filt-O-Reg," a combination fuel pressure regulator and fuel filter. It fits in the fuel line between the fuel pump and the carburetor of any make truck. It is factory set to exert a maximum two pounds constant even pressure at the carburetor. Says Alondra, it feeds full and required volume of filtered fuel to carburetor at minimum pressure for correct air-fuel mixture under most any driving conditions.

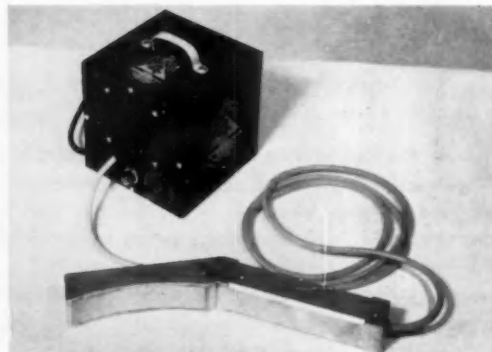
P2. Valve Spring Tool

K-D Mfg. Co., Lancaster, Pa., has developed a new valve spring compressor. The Model No. 382 is specially designed for easy working in close quarters, servicing both L- and valve-in-head engines. Adjustable plunger bar plus the operating hand wheel on the back of the frame make possible a wide range of adjustments to service valves of all lengths. With a throat opening of 9 3/4 in. it is possible to span the manifold and service all valves without changing position.



P3. Oval Mufflers

Merit Mufflers, Toledo, Ohio, announces a new muffler design. The ribbed, "Cushion-Aire" inner shell construction uses chambers of insulating air to absorb sound. Inner and outer shells retain the heavy construction features of the former models and other design features including one-piece inner tubes with self-cleaning extruded holes. Intermediate shells to control sound frequencies and double-locked crimped seams also are retained.



P5. Oil-Water Extractors

Binks Mfg. Co., Chicago, has available two new oil and water extractors for spray painting systems featuring an air capacity of 100 cfm. What makes them effective, says Binks, is a combination of spiral baffles with absorbent filters. When dirty, filters can be removed and washed in petroleum solvent for re-use. Model No. AO-125, above, features an improved and enlarged air regulator. Model No. AO-124 is the same as the AO-125 but lacks the regulator.

P6. Nail Detector

Big Four Industries, Inc., Cincinnati, Ohio, announces its "Magic Hand" electronic nail detector. It works much the same as a mine detector with a sound signal to pinpoint location of any foreign metal object. It can be plugged into any 110-volt outlet and can be used without removing the tire from the wheel. Other advantages cited by the maker include savings in time in inspection, prevention of tire failure by locating metal objects before puncture.

P7. Dryer Retriever

Choldun Mfg. Corp., New Haven, Conn., has designed a vehicle dryer retriever designed for freeing a wash bay that contains a lift, or for washing high vehicles. The retriever permits Choldun car dryers to be pulled easily to one side in less than a minute's time, leaving the area below free for using the lift. When both the Choldun carwasher and car dryers are installed in the same wash bay, the dryers, which operate on a pulley, may be moved to one side.

P9. Shop Exhaust

Car-Mon Products Co., Chicago, has developed a new underfloor exhaust unit with a 3-in. hose. Two-door floor plate provides full ventilation safety, whether one or both outlets are being used. Made of tough, non-crushable "Nu-Flex" neoprene, the extra-wide hose withstands temperature extremes from 0 to 300° F., and resists the corroding effects of fumes, moisture and heat. The adapters are of stainless steel construction to assure long life and leakproof joints. The hose and adapters retract into the floor plate.



P8. Shoe Positioner

Barrett Equipment Co., St. Louis, Mo., announces a new anchor-eye brake shoe positioner. Says Barrett, you can now grind all eight shoes using the anchor-eye or anchor hole position assuring a uniform fit as the shoe positioner includes the correct size anchor for Bendix, Lockheed and Chrysler Center-Plane shoes. Models are available for the following radius grinders: Barrett B-75A and B-75A-1, Barrett B-350A, Ammco 2000 square bar, and Ammco 2000 double bar.

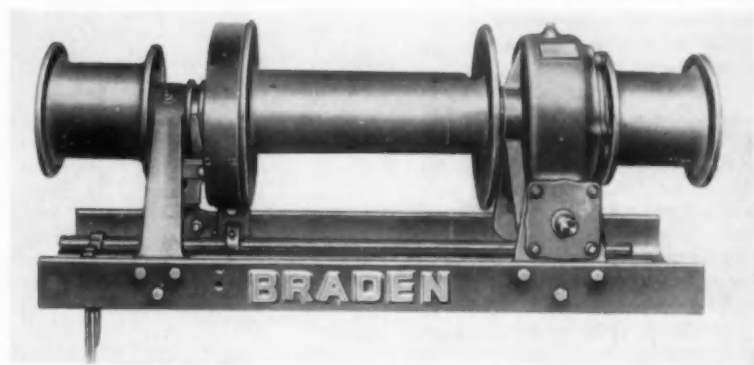


P10. Hose Clamp

Eastman Mfg. Co., Manitowoc, Wis., says positive positioning of its new "Inter-Lock" hose clamp is obtained through alternate mating of the barbs of the insert with the circular ribs of the clamp. The accurate machining of these ribs and barbs permits the hose to be uniformly compressed into each alternating recess. Beveled shoulder of barbs permits easy insertion of insert into hose. For low, medium and high pressure hose up to 5000 psi working pressure, clamps are available for hose sizes ranging from 1/4 to 2 in. ID.

P11. Heavy-Duty Points

The Electric Auto-Lite Co., Toledo, Ohio, is producing special duty distributor point sets for trucks for use in heavy over-the-road operations with engines operating normally in low and medium speed ranges. Auto-Lite says contact surfaces of the points have 78 per cent more contact area than standard points. Breaker arm has broad-beam construction, is reinforced for added strength. Auto-Lite recommends them for use on many makes of trucks having its ignition systems as original equipment.



P12. Spray Paint Pump

The DeVilbiss Co., Toledo, Ohio, announces a pump engineered specifically for handling of paint, says it has been built throughout with materials resistant to paint solvents. Designated as the Model No. P-QBF pump, it comes in several models, will handle material direct from a 55-gal drum. One model is built with a 10-gal, hinged-lid tank. It is compressed air operated, needs no more than 100 lb pressure for volume discharge. Bypass provides for recirculation.

P13. 10-Ton Winch

Braden Winch Co., Broken Arrow, Okla., now has available its new Model No. MS10-18B 20,000-lb capacity winch. It features a heat-treated alloy steel detachable drum clutch plate and an oil-cooled automatic safety brake. Thrust ring is inside so that worm housing carries thrust of drum in either direction. A band brake on the cable drum and full cab controls for both drum brake and clutch are standard.

(TURN TO NEXT PAGE, PLEASE)

New Product Descriptions

Continued from Page 85

P14. Wiper Control Valve

Sprague Devices, Inc., Michigan City, Ind., has a new self-parking nylon control valve to control wiper speed and power by regulating pressure. It automatically moves the wiper to parked position with a surge of pressure. Its advantages are; fine and positive speed control, shuts off all air to the wiper when it is parked, "O" ring seals insure against leaks.

P15. Muffler Tool

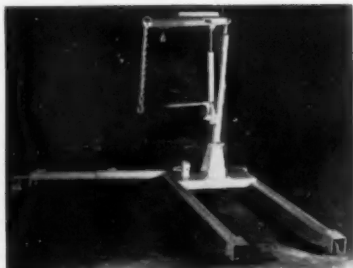
The AP Parts Corp., Toledo, Ohio, has available a new muffler remover tool said to cut installation time in half. AP says the tool allows the operator to easily slash through old pipe and muffler nipples, eliminates use of solvents or unweildy wrenches.

P16. Rust Penetrator

Krylon, Inc., Norristown, Pa., announces a new pressure-packed penetrating solution, "Rust Release." It comes in a 16.2 oz aerosol container, penetrates and unlocks rusty bolts, nuts or other parts almost immediately. "Rust Release" is a special formulation of chemicals and oils blended to provide penetration and solvent properties.

P17. Floor Crane

Ruger Equipment, Inc., Uhrichsville, Ohio, has a $\frac{1}{4}$ -ton capacity portable hand-operated hydraulic floor crane. A telescopic outrigger can be extended to either side of the unit to offer stability, and the crane's boom can be unlocked from its usual position of alignment between the crane's legs and swung to the side a full 90 deg. This allows the crane to reach loads previously inaccessible on account of having the legs obstructed by the base of the machine the load rests



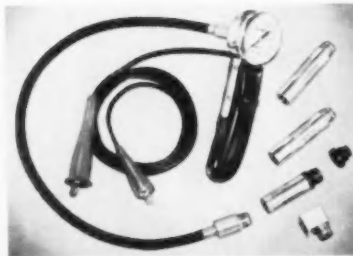
on. Also this feature allows the crane to work in extremely narrow aisles where it is impossible to turn the crane to reach the load.

P18. Arc Welder

Hobart Brothers Co., Troy, Ohio, has available a gasoline engine-driven DC arc welder with 6 kw or 12 kw AC auxiliary power. The welder is available in 300 and 400-amp size with a choice of 6 or 12 kw auxiliary power. Full capacity can be used to provide 110 or 220 volts power service, or the capacity can be divided between the two.

P19. Compression Testers

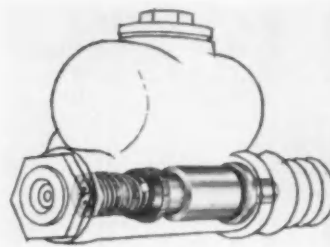
Allen Electric and Equipment Co., Kalamazoo, Mich., has available five new compression testers. One model,



"Precision-test Hi Compression Tester," has screw-in adapters which require no wrenches, will fit 14 or 18 mm or $\frac{7}{8}$ -in. spark plug openings. "Safti-Seal" model, shown here, features one-man testing. It seals itself in the plug opening when engine is cranked. Mechanic actuates starter solenoid with a button in tester handle.

P20. Power Rams

Owatonna Tool Co., Owatonna, Minn., announces new models of OTC "Power-Twin" center hole rams. The ram body has been reinforced with ribs providing additional strength to take the tremendous pressures developed. Solid construction between the cylinder also strengthens each unit and a new, heavier, lower frame bracket permits more flexibility in mounting the ram. A new four spring mechanism provides faster and more positive ram retract action. Both the piston and the piston seals have been redesigned to offer greater efficiency.



P21. Brake Booster

Jeb Industries, Los Angeles, Cal., announces its new "Jeb Power Brake" that fits inside master cylinder, replacing cups and piston of conventional hydraulic system. Power brake kit includes spring, valve and seat assembly, primary cup, boot, locking and unit itself.

P22. Undercoat

Ditzler Color Division, Pittsburgh Plate Glass Co., Detroit, has developed a new automotive undercoat, "Satin Prime," a light gray non-sanding primer sealer. Said to possess exceptional adhesion over steel or aluminum, the new product may also be used over old lacquer or enamel. Lacquer or enamel may be applied over "Satin Prime" after 15 minutes flash dry.

P23. Scratch Hider

Acmec Quality Paints, Inc., Detroit, announces the introduction of No. 3509 "Bond-Tite" created as a solution to the problem of sand-scratches showing through on refinished cars whose original finish was lacquer. It is a clear, lacquer-base material. It can be sprayed over newly-sanded lacquer, enamel, or lacquer primer-surfacer prior to the application of the color coats.

P24. Hacksaw

Hallbee Products Co., Parma, Mich., announces the "Leytool" hacksaw. Special construction permits many uses which are impossible with the ordinary hacksaw, according to the company. The new tool combines features of hack, coping and keyhole saws. Depth of cut is unlimited since the entire frame remains on the operator's side of the material. Inside cuts and cuts in confined areas are also possible. The secret of its operation lies in the sliding blade support with its molded finger rest. Once the saw cut is blade deep or, when starting with a drilled hole on inside cuts, the nose of the spring loaded

(TURN TO PAGE 148, PLEASE)



MANUFACTURERS



OPERATORS



DEALERS

Bendix

POWER BRAKES

1st choice of the industry!

Perhaps no other group of businessmen is as cost conscious as the men who make up the great trucking industry. For the difference between profit and loss in the truck field is mostly a matter of operating costs.

Therefore, when the truck industry gives overwhelming preference to any one product, you can just bet your bottom dollar the product of their choice is the outstanding value in its field.

That's why every segment of the industry—truck manufacturers, operators, and dealers—agree you can't beat Bendix* Power Brakes for efficiency, long life, and economical operation.

In a way it is only natural that Bendix should receive this industry-wide endorsement, for Bendix has an unrivaled wealth of diversified experience in successfully meeting the braking problems of the industry over the years.

That's why, whatever your power braking requirements, it will pay you to make Bendix—the industry's choice—your choice.

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Export Sales and Service: Bendix International Division, 285 East 42nd Street, New York 17, N. Y.

*REG. U. S. PAT. OFF.

BRAKES • POWER STEERING • POWER BRAKING

• CONSTANT VELOCITY UNIVERSAL JOINTS

• HYDRAULIC REMOTE CONTROLS



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IN THIS REVIEW OF MAINTENANCE AND SAFETY PUBLICATIONS

Engine Bearing Reference Manual

Fleet maintenance shops should have an engine bearing reference manual like this one as a basic reference on bearing service. In 100 pages, it presents a comprehensive picture of engine bearing selection, installation, maintenance and operation.

Well over 100 photographs and illustrations amplify the clearly written text. Especially valuable are the full color photographs showing typical bearing failures to help you nail down why your bearings failed.

You'll find some important tips on bearing inspection and checking in the section entitled "Precision and Tools." Covered are micrometers, out-of-roundness gages, bore gages, torque wrenches, feeler gages, oil pressure loss indicators, aligning bars, "V" blocks and clearance gages. For your free copy, circle L 1 on the postcard on page 84 of this issue.

Driver Trainer Manual

From American Trucking Assn.'s Dept. of Safety comes this 16-page manual on "The Driver-Trainer and His Role in the Fleet Safety Program." It is the result of a project undertaken by the Joint Committee on Driver Training and Supervision of ATA's Council of Safety Supervisors. As such, it represents the experience of some of the best fleet safety men in the business.

It is a factual book, starts out with what a driver trainer does and makes clear what benefits the fleet can expect from a driver trainer program. It describes the qualifications of a driver trainer, how to work him into the safety program, what his job should cover, driver testing.

Price of the manual—50¢—is nominal compared to its potential value to fleet safety. It can be ordered from Dept. of Safety, American Trucking Assns., 1424 Sixteenth St., N.W., Washington 6, D. C.

Tire Care and Maintenance Book

This tire care and maintenance book available from Seiberling Rubber Co. is small (pocket-size) but mighty. It tells how to figure load distribution on several types of vehicles to help in selection of correct tire and keeping proper pressure. It gives facts on tire wear in relation to load and speed, includes a special section on dual operation for best service. There's a comprehensive discussion of tire clearance and dual spacing.

Tire men will also find tire and tube mounting instructions, tire balancing data, tire rotation programs and com-

plete inflation tables. Last two pages are devoted to listing weights of various commodities. For your free copy, circle L 2 on the postcard on page 84.

Truck Tire Fire Report

With the rapid growth of limited-access, high-speed expressways, here is a short report that should be of value to fleet operators. It is a quick and important review of how to prevent and control truck tire fires.

Prepared by O. D. Shipley, Safety Director, Pennsylvania Motor Truck Assn., it starts out with five basic facts about tire fires—why they occur, how they can be prevented, why prevention is not 100 per cent the answer, why tire fires are hard to control and why attempts to remove burning tires are "wishful thinking." You can get your free copy of this report by circling L 3 on the postcard on page 84.

Diesel Engine Operation Review

Thinking about converting to diesel? Or maybe you are not getting the results you expect from diesel engines. In any event, here is a booklet from Cummins Engine Co., "Answers to Questions about Diesels," that you'll want to read if you have any serious interest in diesels at all.

It is based on a comparison of gasoline and diesel engine operation. It begins with fuel supply and compression ratio, moves on to ignition and fuels. Of special interest is a well-illustrated section on diesel fuel systems. Concluding sections of the book cover supercharging, turbocharging, power ratings and diesel engine operation. All-in-all, some 57 questions are answered about diesel engines. You can get a free copy by circling L 4 on the postcard.

Safety Supervisors Manual

From the National Safety Council comes this 354-page book covering maintenance shop safety. It can be used for group training for self-study.

Written as a comprehensive guide to all phases of industrial safety, it includes material on the human side of safety, maintaining interest in accident prevention, first aid, protective equipment, housekeeping, materials handling, machine guarding, portable power tool safety and fire prevention.

Price is \$3.25 for National Safety Council members, double that to others. Order it from the Council at 425 North Michigan Ave., Chicago 11, Ill.

(FOR RECENT MANUFACTURERS' LITERATURE, SEE PAGE 192)

**HERE'S HOW
you too can**

REDUCE BATTERY COSTS

WITH

**National
KATHANODE**



BUS



TRUCK



DIESEL



Multi-Power BATTERIES

Just by using a simple checking system which we have developed, you prolong the life of your batteries—improve their performance.

This system is available to you without cost or obligation. Call your National jobber now—he will arrange a date when our special representative can put this system to work for you.

Gould-National BATTERIES, INC.

ST. PAUL 1, MINNESOTA

SAE Summer Meeting

Reviews Truck and



**Controlled field tests provide
according to fleet experts on**

Field Testing of Parts and Supplies

THE T AND M SPONSORED symposium, Field Testing of Parts and Supplies, set about to show how controlled test programs are set up in large truck operations, bus operation and in small delivery type fleets. Four fleetmen discussed various angles to this program. Here are some highlights from these papers.

Selection of parts, units and vehicles is a major phase of management at the Surface Dept. of the New York Transit Authority, according to Hymen Feldman, director of maintenance. This property, for example, spends \$39,000 annually for cleaning supplies alone. They stock 25,000 different parts to support this fleet of 2100 vehicles. Each year they spend about \$4 $\frac{3}{4}$ million for materials. This year a total of seven million

dollars is earmarked for new vehicles. This is ample reason for a continuing field testing program.

Even though detailed specifications are set up for equipment, testing of such items as batteries, paint, mufflers, suspension, tires, compressors and a host of other items is necessary in the interest of making more intelligent choices in purchasing.

Testing Characteristics

Feldman went into detail relative to controlled tests of such items as torque converters, paints, wheel bearings, and brakes, showing how the program is set up on his property. He emphasized the fact that any test program must have the following characteristics:

Control vehicles must be oper-

ated side by side under similar operating conditions, he said, in order to get accurate test results. A large number of tests, or a large number of vehicles must be tested before conclusions are drawn relative to the service a certain part or assembly is rendering. An accurate record must be kept on the results. Mileage figures must be accurate and instrumentation must be used to determine results whenever possible. He cautioned against the use of "judgment" over instrumentation in evaluating results and emphasized the need for unbiased reports of the individuals concerned. In other words, he said, future specifications must make use of test results or the time and expense of testing is wasted.

Why Field Test?

James Moreland, New York Omnibus Corp., outlined three types of field test categories: product comparison, technical change decision and maintenance change evaluation. Product comparisons, he said, are generally those types of tests by which the evaluation of the ability of different suppliers to furnish similar products is made. The value of these tests is determined by such factors as the volume of units tested, the accuracy of the performance figures and the extent of the records kept.

The technical change type of testing involves a design change and determines the relative merits

Bus Problems

better guide to parts and product selection

SAE panel. Brakes, retarders also discussed

of variation in the design of mechanical parts from the standpoints of metallurgy, chemistry or physical change.

Testing which will affect the setting up or the revising of maintenance procedures can involve a specific product, or a salvage method. Results can be instrumental in improving the maintenance efficiency but only if and when it is carried out on a precision-like basis.

How Big a Test?

One of the most important decisions for the maintenance man or the engineer, Moreland said, is to determine just what tests should be conducted. He must decide early in the game whether he can realize sufficient advantages from any data to guide later purchasing practices. He suggested that tests be conducted on a limited quantity of material before a decision is made relative to continuing. If the evaluation of the data obtained in this trial indicates that the expectation of the tests is justified, then the material is purchased in a sufficient volume to run an expanded test to obtain more accurate information on performance.

For field testing to be successful in maintenance, purchasing policy must be such as to consider only those items where substantial savings through initial cost or improved quality are indicated. Although the quality of products

varies to some degree, marked improvements in maintenance cost are generally found in specification or method changes. It is by these means that field testing can provide its greatest return in automotive maintenance, according to Moreland.

Small Bus Fleets

E. N. Hatch, director, Dept. of Franchises, Nassau County, N. Y., discussed the type of field testing conducted by the small bus operator. He called this "performance testing." The small operator will not have specialized test engineers, but he is continuously running tests though he does not refer to it as a formal test program.

This evaluation was made after a survey of 13 privately owned bus fleets in Nassau County with a series of questions on purchasing practices and field testing methods.

When the small operator has purchased and run a new part or product with satisfactory results, he has completed his test. Conversely, if he finds a part does not give satisfactory service, he will look for a different product. There is a continuous exchange of information among small bus operators relative to product performance. This type of property makes use of manufacturers' representatives in running tests on certain products. He may not have as much influence on the manufacturers as the large bus operator,

but he does have definite ideas and first hand knowledge of the results he obtains with the use of various makes and types of parts and supplies. In some respects, Hatch says, the small operator has an advantage since he is completely familiar with every piece of equipment on his property.

Multi-Stop Delivery

C. H. Ruth, Jr., of The Washington Star, showed how the small fleet can make more effective use of factory technicians and service representatives in diagnosing parts failures.

Cooperation with the engineers from the factory, he said, can take the place of formal test programs where the fleet is not large enough to have an engineering section of its own. Mr. Ruth showed how his company through liaison with the factory service people had been guided to better maintenance and more intelligent selection of equipment.

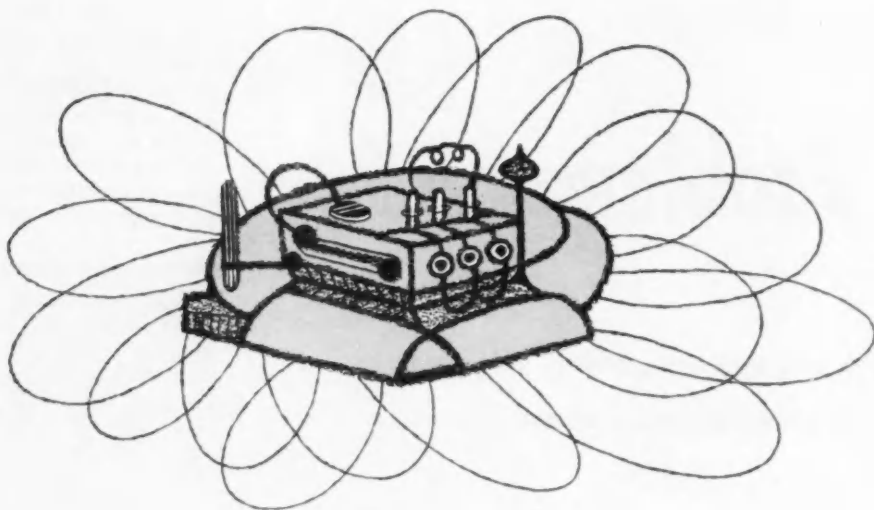
Emergency Brakes

METHODS OF preventing highway accidents caused by brake failures on commercial truck-trailer combinations were considered at a symposium made up of both manufacturers and fleetmen. Engineers told the symposium that the problem involves not merely equipment, but proper maintenance and the exercise of better judgment by truck drivers.

John Thomas, of International Harvester Co., reported that a series of tests has disclosed no difference in emergency braking capability for the two axle tractor-single axle semi-trailer combination whether it be protected axle by axle or vehicle by vehicle. Where tandem axles are involved he added, the axle by axle concept provides a much greater safety margin.

Ward Bennett, of Baltimore Transfer Co., outlined his conversion program to provide "individual vehicle protection." He showed how various units had been adopted as they were available from manufacturers, indicated that with the use of such

(TURN TO PAGE 134, PLEASE)



Miracle Battery? No, Not Yet

THE BATTERY industry has been wide awake and alert, and has greatly increased today's lead-acid battery's ability to serve you more dependably.

We don't see any other form of battery in the near future displacing the conventional lead-acid battery of today. We of the industry pledge that we shall continue to use the best of research to continuously improve the dependability of storage batteries.

Atomic Battery

A practical atomic battery is a long way off. True, we have created atomic heat which generates steam which runs a steam engine to drive a generator to create electricity, but practical quantities of electricity derived directly from radio-active material is still far in the future, if at all. The nearest approach to a practical atomic battery is one using Strontium 90 as a source of power.

With this source, such a battery can now be produced at a cost of \$500.00 per Curie. Such a battery would have a life expectancy of

By Leo Dubinski, President, Standard Electric Co. & Reliable Battery Co.

Atomic batteries, solar batteries, miracle boxes that are self charging—they're a long way off. Misleading information and "guarantee manipulation" have confused the user, says Mr. Dubinski, and put reputable manufacturers on the spot. Actually, he says, the lead-acid battery is the only practical unit in the foreseeable future that will fill requirements at a realistic cost figure. And none of them will last a lifetime . . . This article has been excerpted from a paper presented by the author before the San Antonio Chapter of SAE.

about 25 years. However, one Curie will deliver only 0.006 watts. On the basis of its requiring 750 watts to crank the engine, this would mean that 125,000 Curies would be required, at a cost of \$500.00 per Curie. An atomic battery capable of cranking the engine of your car would cost \$62,500,000.00.

Solar Battery

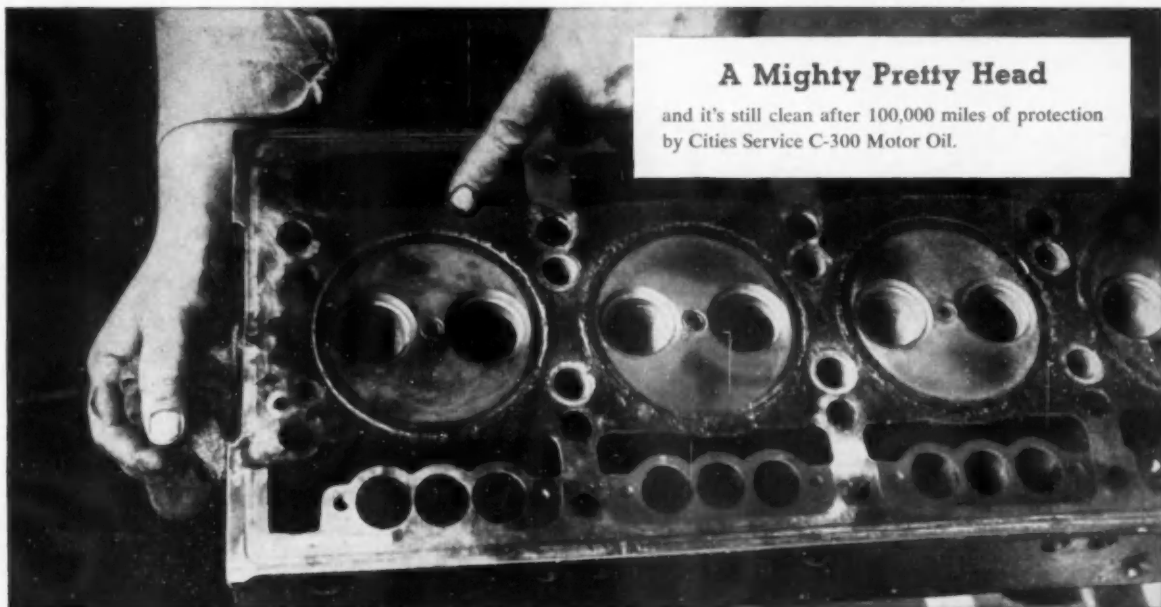
The term solar battery is a misnomer. Actually, it is a light, or heat, generator. It absorbs the

sun's rays and transforms them into electricity. But, if you want to use this electricity after the sun goes down, you have to have a storage battery standing by to supply the current after dark.

Nickel-Cadmium Battery

There is nothing new about Nickel-Cadmium batteries. We have known about them in this country for over fifty years. The reason these batteries were being used in Germany during the War

(TURN TO PAGE 128, PLEASE)



A Mighty Pretty Head

and it's still clean after 100,000 miles of protection by Cities Service C-300 Motor Oil.

"Doubled period between overhaul, increased valve life 300%!"

Using Cities Service C-300 Motor Oil, Illini Reefer Transit, Champaign, Illinois, rolls up one of the nation's best maintenance averages.

Alfred Osterhoff of Illini Reefer Transit operates 32 trailers, 22 tractors, and 8 single units. And with this equipment, Illini rolls up 750,000 miles per year, hauls 32,000 tons, and yet keeps a maintenance average .5% lower than the national average for like trucking companies.

How Does Illini Do It? "With Cities Service Lubricants," says owner Osterhoff. "Since we started using Cities Service High Detergent C-300 Motor Oil six years ago, maintenance costs have taken a tremendous drop. Overhaul periods have increased from 60,000 miles to as high as 135,000 miles for

many of our units. Meanwhile, valve life has increased 300%!

"In fact," continues Osterhoff, "Cities Service C-300 Motor Oil has proven so remarkable that recently, when one of our engines ran out of water and 'froze' tight on the road, it required nothing more than some more water to complete its trip. Then, after an engine check showed normal compression, the truck was run until the next overhaul. At that time, it was discovered that not a single ring had stuck, thanks to C-300 Motor Oil!"

This is another factual report from a fleet operator using Cities Service products. For more information about these highest quality products, contact your nearest Cities Service representative or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.



After 100,000 Miles, Camshaft's Clean in all Illini Reefer Transit units, thanks to Cities Service C-300 Motor Oil. Maintenance costs are lowest ever.



Owner Alfred W. Osterhoff started with one pick-up truck and a contract to haul butter. Still hauls butter, but now has 32 trailers, 22 tractors, 8 single units.



Getting The Cities Service Treatment, truck receives thorough lubrication with Multi-Purpose Trojan H-2 Grease. Illini reports it prevents rust and washouts.

CITIES SERVICE
QUALITY PETROLEUM PRODUCTS

Turbocharger Gets 335 HP

CUMMINS ENGINE Co. has announced production and availability of its new 335-hp, NRTO-6 turbocharged diesel engine. It is a 6-cyl, 4-cycle engine with bore and stroke of 5½ x 6 in. and piston displacement of 743 cu in. Compression ratio is 14.5 to 1.

Compared to a naturally aspirated engine of the same cubic inch displacement, Cummins says the NRTO-6 develops 67½ per cent more power and 11½ per cent more power than a mechanically supercharged engine of the same cubic inch displacement. The fuel rate also is lower, Cummins claims, than naturally aspirated or mechanically supercharged engines.

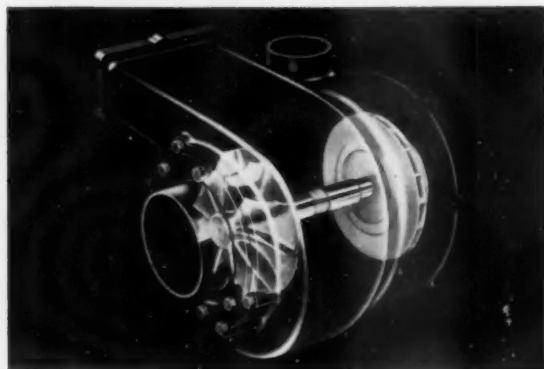
Turbocharger Operation

Key to the high horsepower available from the NRTO-6 engine is the Cummins turbocharger. Here exhaust gas is used to create power. This is accomplished by piping the exhaust through a turbine which is one element of the turbocharger. The exhaust gas is directed against the turbine blades causing the wheel to rotate at high speed. A centrifugal impeller, mounted on the same shaft, but in a separate housing, draws fresh air and blows it into the intake manifold and cylinders under pressure. More weight of fresh air is forced into the cylinders and a greater quantity of fuel can be burned completely, thus creating more power at the flywheel.

Mounting of Cummins T590 turbochargers on the NRTO-6 can be effected in three ways—rear, top or side, depending on the application requirements of various power users.

Uses PT Fuel System

All NRTO-6 engines are equipped with the PT fuel system which permits use of any commercially acceptable



diesel fuel weights, although No. 2 diesel fuel or furnace oil is recommended for best performance and lowest operating costs.

The "Turbodiesel" utilizes an open type combustion chamber to obtain its high performance and low fuel consumption. To insure fast removal of exhaust gases and a full charge of fresh air, each cylinder is equipped with dual exhaust and intake valves. Stellite exhaust valve seats and exhaust valve faces are used to minimize corrosive effect of high temperature exhaust gases. Valves and injectors are overhead type actuated by camshaft through a conventional push tube and rocker lever arrangement.

Cylinder liners are wet type for rapid dissipation of heat to the cooling water. Liners are honed and lubricated for fast break-in and are replaceable.

Pistons are aluminum and are cam ground to insure perfect fit in liner at operating temperatures. A Ni-resist insert is used for the top ring groove. Three compression rings and one oil ring are used, the top compression ring being chrome plated steel. Pistons are balanced, as are connecting rods, so that stock parts can be used when replacing one or more pistons and/or rods without balancing the entire reciprocating mass of the engine.

Aluminum Bodies for Multi-Stops



New bodies announced by Post Mfg. Co., Taunton, Mass., are designed for all forward-control chassis, feature heavy-gage, hardened and tempered aluminum side panels. Interiors have extra-size foam rubber seats says Post, as well as large space for on-the-road paperwork and three large storage cabinets.

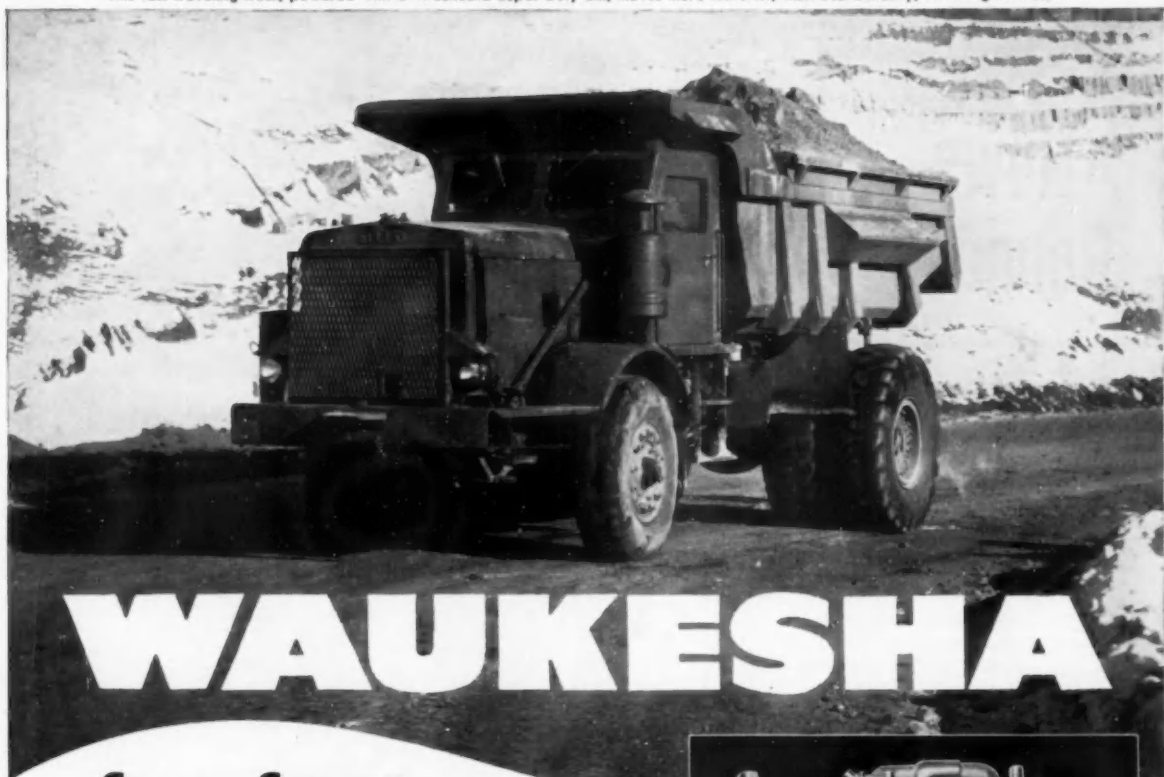
Tonnage Sets Record

Region	First Quarter 1956*	First Quarter 1955*	Per Cent Change
New England	4,205	3,740	+12.4
Middle Atlantic	15,804	14,487	+ 9.1
Central	22,377	21,294	+ 5.1
Southern	8,025	7,399	+ 8.5
Northwestern	3,583	3,253	+10.1
Middlewestern	4,514	4,188	+ 7.8
Southwestern	5,591	5,032	+11.1
Rocky Mountain	2,194	2,146	+ 2.2
Pacific	6,944	6,311	+10.0
United States	73,236	67,849	+ 7.9

* In thousands of tons. Reported by ATA Research Dept.

Intercity truck tonnage for the first quarter of 1956 was 7.9 per cent ahead of first quarter 1955, reports American Trucking Assns. Research Dept. ATA's tonnage index stood at 183, a new first quarter high. In the regional breakdown, detailed in the chart, New England had the highest increase—12.4 per cent.

This fast traveling truck, powered with a Waukesha Super Duty Six, moves more material, most economically, in mining service.



WAUKESHA

for fast, heavy hauls

1197 cubic inch Super Duty ENGINES

all with counterbalanced crankshafts

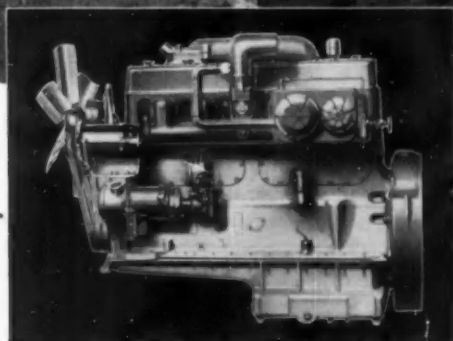


WAKR
Butane

WAKDB
Normal Diesel

WAKDBS
Turbodiesel

up to 352 maximum hp



Powering the truck—Model WAKR Butane
Super Duty Six—6 1/4-in. bore x 6 1/2-in. stroke, 1197
cu. in. displacement, 290 horsepower at 1800 rpm.

This truck is one of sixteen in a mining company's fleet. Hauling 22-ton average payloads—up 6 to 8 per cent grades—off-the-highway most of the time—and they work a twenty-hour day. Only after 7000 hours or more of this heavy hauling mine service are the engines overhauled—a good average.

Let's look at this truck's power. It has a torque converter—automatic transmission combination—and the engine is one of the Waukesha 1197 cubic inch Super Duty Sixes. This is Model WAKR, burning butane. Built like the Super Duty Diesels in this WAK Series, except for cylinder heads and injection equipment.

Write for descriptive bulletins

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WAUKESHA MOTOR COMPANY • WAUKESHA, WIS.

NEW YORK

TULSA

LOS ANGELES

July News Roundup

NTTC Chemical School

National Tank Truck Carriers announces its second course in tank truck transportation of chemicals, gases, foods and dry commodities. It will be held Aug. 27-30 at the Kellogg Center for Continuing Education, Michigan State University, East Lansing, Mich. Enrollment fee is \$50 with accommodations at a nominal charge available at Kellogg Center.

TTMA Surveys Trailer Cube

Truck-Trailer Manufacturers Assn. has just tabulated a survey of production trends in length, width, height and wall thickness of van trailers. Chart at bottom shows percentage of production classified by length and height, with over half in the 34 to 36 ft length, 12 to 13 ft high class. Emphasis on increased cube is shown in the wall thickness data. Says the report, 68.5 per cent of production is of non-insulated trailers is with 1-in. wall thickness, 7.3 per cent measure 1½ in. and 24.2 per cent have a 2-in. wall. When it comes to insulation thickness, here's what TTMA found:

Thickness of Insulation	Per Cent
1½ in. or less	16.7
2 in.	3.2
3 in.	63.6
4 in.	12.3
5 in.	0.1
6 in.	4.1

Length	Height		Total
	13 ft and over	12 to 13 ft	
Over 36 ft	4.8	1.2	6.7
34 to 36 ft	....	58.8	68.6
32 to 34 ft	....	9.5	14.3
30 to 32 ft	....	1.2	2.0
28 to 30 ft	....	0.6	0.9
26 to 28 ft	....	0.6	0.63
24 to 26 ft	0.05	0.22	0.97
22 to 24 ft	....	1.0	1.6
Under 22 ft	0.2	2.4	3.8
Total	5.05	75.52	99.5

Iowa Moving Van Driver Named "Driver of the Year"

An Iowa moving van driver, Lewis E. Cook, was named as the trucking industry's "Driver of the Year," in the annual national contest conducted by the American Trucking Assns. He was honored for driving 700,000 miles without a chargeable accident during the last seven years and for saving the life of a motorist who suffered a broken neck in an accident.

Cook, who twice previously gave first aid to motorists hurt in road mishaps, was nominated for the national title by the Iowa Motor Truck Assn. and his employer, Reed's Transfer & Storage, of Waterloo, Iowa, agent for North American Van Lines. He is a former Army intelligence man, holder of the Distinguished Service Medal, and was wounded three times during World War II.

Cook makes his home with his wife, Gladys, son, Larry, 8, and daughter, Linda Ann, 6, at 319½ West Fourth Street, Waterloo. He is a member of Local 650 of the International Brotherhood of Teamsters.

Three other outstanding truck drivers were named recipients of runner-up Honorable Mention Citations:



Lewis O. Duke, Kansas City, Mo., driver for Jack Cooper Transport, automobile haulers, also of Kansas City.

Alerd H. Clemenson, Jamestown, N. D., driver for Dan Dugan Oil Transport, Sioux Falls, S. D., tank truck operators.

Glenn B. Wallace, Philadelphia, driver out of Wilmington, Del., for Anchor Motor Freight, Cleveland, Ohio, automobile haulers.

Dodge Cited by ATA

Dodge Division, Chrysler Corp., was formally commended for its role in aiding transportation education at the June meeting of the ATA National Committee on Education. Dodge, through the ATA Foundation, recently

presented a copy of the newly revised edition of "Commercial Motor Transportation" by Dr. Charles Taff of the University of Maryland, to every college and university library in the U. S. Additional copies were supplied to schools offering courses in transportation.

Dr. John S. Worley

Dr. John S. Worley, professor emeritus of transportation engineering at the University of Michigan, and one of the country's foremost authorities on transportation, died recently, after a brief illness at Ann Arbor, Mich. Prior to joining the engineering faculty at the University of Michigan

(TURN TO PAGE 196, PLEASE)



TUBE or TUBELESS ...

Add "flat catching" to your routine pit procedures

Flats on the highway make overhead soar. Many fleet owners are saving money by catching flats before they happen by using accurate Schrader gauges. Regular daily gauging shows up slow leaks ... the signal of a future flat. This lets them fix tubes and tires in the shop during regular maintenance hours, when it's cheap. Flats during runs are minimized.

This plan is even more effective when you use Schrader Air Chucks, Couplers, Chuck Gauges and Accessories for faster, better operating air lines. The Schrader 7188BH All-Purpose Service Gauge is best for all tire inspection work, and the accuracy of your gauging-inflating equipment can be certified with a Schrader 8106B Trutest Special Gauge. It pays to specify Schrader products from your supplier, whether it's caps, cores, tube or tubeless valves or anything needed for fast, accurate air service.

Schrader Products important to best tire maintenance



8106B for checking all other gauges



7188BH All-Purpose Service Gauge



New 3650 Type Chuck Gauge



7611
Heat-Resisting
Core



7612 Heat-Resisting Cap

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

Schrader®
ESTABLISHED IN 1844

FIRST NAME IN THE SAFEST TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

1956 New Truck Registrations by Makes by States

STATE AND MONTH		Brookway	Chevrolet	Diamond T	Dodge	Ford	G.M.C.	International	Mack	Ree	Studebaker	White	Willys Jeep	Willys Truck	All Others	Total
Alabama	April		610	3	85	533	195	163	23	2	7	20	9	4	15	1,669
	4 Mos.		2,397	7	276	1,730	849	563	56	8	32	77	17	17	31	6,690
Arizona	April		294		58	280	87	84	5	1	12	4	8	14	20	967
	4 Mos.		802	2	155	656	275	202	7	1	33	11	23	44	41	2,252
Arkansas	April		433	3	48	347	99	101	5	1	11	8	6	7	1	1,070
	4 Mos.		2,182	12	235	1,769	603	619	16	1	84	25	26	20	1	5,623
California	April		3,268	63	542	2,900	901	621	34	34	98	70	94	139	281	9,045
	4 Mos.		11,782	107	1,880	9,304	2,860	2,059	130	98	368	244	330	523	772	30,437
Colorado	April		447	5	62	251	93	102	8	6	8	12	19	44	27	1,094
	4 Mos.		1,470	15	223	1,073	364	416	30	14	39	30	70	130	56	3,930
Connecticut	April		272	14	65	218	85	139	30	8	13	12	22	26	912	
	4 Mos.	6	815	42	179	645	274	405	105	29	41	72	45	82	89	2,810
Delaware	April	1	75		16	71	58	25	4		1	4	1	2	1	259
	4 Mos.	1	238	4	66	223	143	153	21		9	16	20	9	3	960
District of Columbia	April		85		31	83	10	46		6	2	5	4	4	10	274
	4 Mos.		221	2	67	270	120	145	14	6	14	39	32	54	33	2,021
Florida	April		653	3	129	591	168	168	47	4	14	39	94	34	33	2,021
	4 Mos.		2,853	24	490	2,770	836	751	174	53	91	179	94	187	144	8,646
Georgia	April	1	562		95	574	180	129	26	2	11	20	9	12	6	1,627
	4 Mos.	1	1,456	15	286	1,584	601	438	86	9	49	99	31	25	8	4,686
Idaho	April		164		33	150	47	90	6		18	1	15	30	5	559
	4 Mos.		527	2	130	454	206	282	11		43	10	37	96	13	1,815
Illinois	April		1,125	30	174	1,060	286	593	44		9	167	281	94	83	207
	4 Mos.		4,276	192	699	3,877	1,295	2,280	137	30	167	281	94	83	207	13,618
Indiana	April		476	13	59	389	159	348	21	12	40	64	5	22	12	2,105
	4 Mos.		2,658	64	502	2,179	724	1,398	103	25	222	312	31	51	60	8,329
Iowa	April		590	14	76	554	106	335	2	1	15	9	3	5	12	1,722
	4 Mos.		1,598	42	243	1,567	302	997	7	5	55	48	11	15	62	4,952
Kansas	April		441	2	54	378	103	193		12	14	21	4	12	17	1,244
	4 Mos.		1,263	6	162	1,141	323	528		12	41	11	52	26	3	3,640
Kentucky	April		571	94	6	417	164	164		2	4	7	16	17	3	1,450
	4 Mos.		1,716	12	309	1,391	577	628	20	4	43	41	36	54	29	4,862
Louisiana	April		747	9	68	579	141	160	31		14	21	18	18	3	1,809
	4 Mos.		2,914	31	256	2,316	735	659	55	2	71	65	48	42	12	7,207
Maine	April		194		27	181	61	69	5		33	12	17	26	13	600
	4 Mos.	1	458	2	94	482	200	208	23		33	21	38	69	43	1,672
Maryland	April	3	431	4	4	458	97	218	26	15	22	32	4	7	4	1,415
	4 Mos.	9	1,218	8	395	1,157	251	465	91	28	41	71	14	23	25	3,794
Massachusetts	April		458	16	134	580	149	196	61	14	17	54	20	44	46	1,756
	4 Mos.	16	1,183	44	413	1,447	423	580	168	37	42	191	49	102	130	4,825
Michigan	April		928	23	235	983	303	256	29	28	28	41	30	25	33	2,942
	4 Mos.		3,927	80	943	3,959	1,174	905	107	66	100	191	95	114	171	11,832
Minnesota	April		498	13	92	479	114	223	10	18	4	10	4	14	36	1,517
	4 Mos.		1,780	26	308	1,615	426	626	27	18	84	22	37	86	49	5,570
Mississippi	April		40		42	117	142	1		1	17	3	2	2		1,261
	4 Mos.		1,923	4	196	1,474	527	554	16	2	62	13	22	22	4	4,845
Missouri	April		776	11	89	602	179	256	8	6	20	50	9	5	6	2,017
	4 Mos.		3,466	34	433	2,727	943	1,199	40	12	90	169	39	23	45	9,249
Montana	April		204		40	172	64	137	3		19	9	34	7	6	706
	4 Mos.		689	1	126	997	265	503	14	4	48	19	56	133	22	2,459
Nebraska	April		272	13	33	239	61	143		3	12	12	4	7	3	802
	4 Mos.		1,050	32	137	920	273	606	2	5	44	38	26	36	24	3,197
Nevada	April		72	1	41	82	54	24	2		14	1	23	1	1	315
	4 Mos.		308	4	106	257	169	91	11		35	17	56	17	1	1,071
New Hampshire	April		98	1	32	136	34	47	28	1	7	8	14	23	6	387
	4 Mos.		220	2	51	249	88	90	50	5	17	24	30	50	17	896
New Jersey	April	26	807	12	251	677	248	317	85	9	19	69	26	21	40	2,629
	4 Mos.	64	2,168	68	643	1,964	694	787	247	29	56	229	55	74	131	7,106
New Mexico	April		273		16	141	58	50	3	1	5	12	9	13	4	585
	4 Mos.		770		71	508	296	155	18	2	19	18	26	51	12	1,946
New York	April	69	1,466	15	397	1,590	488	736	200	42	41	150	61	100	138	5,493
	4 Mos.	176	3,766	82	1,326	3,818	1,488	2,116	521	132	96	407	177	294	312	14,703
North Carolina	April		695		83	567	154	171	51	3	20	32	11	4		1,892
	4 Mos.		2,765	15	414	2,281	775	759	218	10	167	53	50	21		7,636
North Dakota	April		153		24	154	29	135			6	1	6	6	1	515
	4 Mos.		470		95	396	122	417			21	2	12	22	5	1,582
Ohio	April	1	1,059	13	254	1,216	293	551	49	15	36	96	26	54	36	3,701
	4 Mos.	1	4,300	61	1,019	4,431	1,165	2,116	226	82	142	383	98	160	165	14,362
Oklahoma	April		599	4	51	453	138	184	6	4	11	19	7	6		1,519
	4 Mos.		1,976	16	204	1,584	479	606	57	14	48	72	16	12	29	5,102
Oregon	April		353	16	94	306	153	187	44	2	26	32	9	52	50	1,359
	4 Mos.		1,538	30	266	1,161	525	867	68	6	122	139	56	213	115	4,808
Pennsylvania	April	8	908	18	316	942	266	394	88	11	29	102	41	91	20	3,234
	4 Mos.	48	3,807	95	1,177	3,927	1,314	2,117	517	65	171	514	145	390	137	14,424
Rhode Island	April		93	7	39	94	30	35	16	1	3	2	3			334
	4 Mos.		261	10	77	240	102	142	30	5	10	15	8	16	12	928
South Carolina	April		390		35	257	42	56	30		11	9	2	2		744
	4 Mos.		1,350	3	219	1,275	349	341	105	3	48	48	14	12	12	3,977
South Dakota	April		151	3	29	147	47	158		3	3	1	10	10	4	594
	4 Mos.		512	7	92	494	171	467		8	10	4	32	49	21	1,876
Tennessee	April		642	12	157	655	209	205	39	3	16	55	8	11	3	2,015
	4 Mos.		2,179	20	471	1,873	636	773	73	16	48	148	40	44	4	6,327
Texas	April		2,565	28	198	1,931	464	656	72	8	37	223	25	45	24	5,265
	4 Mos.		9,874	111	822	7,111	1,874	2,473	291	26	180	517	92	125	62	23,468
Utah	April		142		113	85	40	6			7	5	3	23	11	744
	4 Mos.		485	2	126	359	200	213	17	2	23	24	11	44	54	1,560
Vermont	April	10	136	1	20	163	83	97	9	1	7		14	25	9	575
	4 Mos.	13	275	1	63	295	159	165	32	2	16	3	60	82	16	1,172

Source: Data from R. L. Peik & Co.

P&H

USES

SHULER AXLES

on their famous
35-ton truck crane

The Harnischfeger Corporation of Milwaukee advertises widely that "P&H Truck Cranes ride on the strongest carriers ever built!" This makes as good a bill that Shuler Axles are used on P&H Model 335 Truck Cranes—the largest and heaviest in the Harnischfeger line.



THERE ARE NO BETTER AXLES, AT ANY PRICE!

Since 1915, Manufacturers of: *One-Piece* Tubular Heavy-Duty Trailer Axles; Front Axles for Trucks, Busses, and Off-Highway Equipment; Low-Bed Machinery Trailer Axles; Heavy-Duty Vacuum and Air Brakes.

SHULER AXLE COMPANY, Incorporated, LOUISVILLE, KENTUCKY

SUBSIDIARY OF FULLER MANUFACTURING COMPANY

SALES OFFICES in CHICAGO, DETROIT, OAKLAND and TULSA

WEST COAST WAREHOUSE
Oakland, California

SOUTHWEST WAREHOUSE
Fort Worth, Texas



Like practically all Mack users, President R. C. Jones, Jr. of Jones Motor Co., Inc. has found that Macks—like this H63T diesel—are the leaders in every department that has a bearing on profits... in fuel economy, in maximum payload capacity and in unfailing dependability.

Jones Motor Company, Inc. gets 7.5 mpg with new Mack Thermodyne® Diesels

With rigid schedules to stick to, and with some of the world's most congested traffic to contend with, Jones Motor Company, Inc. of Spring City, Pa., give a strong vote of confidence to their Macks.

80% of Jones' 300 power units are Macks. Having recently added eighteen H63T and four B61T Mack Thermodyne Diesels, they're in an authoritative position to appraise their husky new haulers.

"These new units," writes President R. C. Jones, Jr., "feature top performance with unparalleled economy. They're averaging 7.5 miles per gallon, even while pulling the maximum legal weight through Pennsylvania, New Jersey and New York."

If you, too, operate on tight schedules over open highway and through crowded city traffic, look into Macks. You'll find their per-

formance and earning power can't be equalled. You'll find that you can't afford *not* to own Macks. Mack Trucks, Inc., Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

MACK
first name for
TRUCKS

CCJ's Truck Specifications

COMPILED FROM DATA SUPPLIED BY MANUFACTURERS

KEY TO DEFINITIONS

MAKE AND MODEL
Only Domestic Truck Models are listed.

OPTIONAL UNITS
For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE
The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE
The Gross Weights published herewith are

those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors including grades, road conditions, etc., the gross weight that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT
The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the

weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE
The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE
The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost. If it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE
The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE

The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.
Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE
Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS
Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO ABBREVIATIONS

MAKES—ALL
B—Bendix.
BL—Brown-Elpe.
Bu or Bud—Buda.
BW—Bendix-Westinghouse.
C—Chevrolet.
Cl or Cla—Clark.
Con—Continental.
Cu or Cum—Cummins-Diesel.
E—Easton.
F—Ford.
Fu—Fuller.
G-H—Goodyear-Hawley type.
H—Hotchkiss.
Her—Hercules.
HS—Holt-Scott.
Int—International Harvester.
L—Lockheed.
LeR—LeROI.
LH—Lockheed front, Wagner "Hi-Tork" rear.
LT—Lockheed type front Timken rear.
LW—Lockheed front, Wisconsin rear.
M—Midland.
N.P.—New Process.
O or Os—Over.
Op or Opt—Optional.
S—Shuler.
Spi—Speer.
T or Tim—Timken-Detroit Axle Co.

Tw—Timken-Detroit—Westinghouse.
W—Waukesha.
Var—Variable.
WQ—Warner Gear.
Wu—Waukesha.
W or Wis—Wisconsin.
WE—Wagner Electric.
Wg—Wagner "Hi-Tork."
Ws—Westinghouse.
WW—Westinghouse or Wagner

WHEELS DRIVEN
2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
6—All wheels.

BRAKES—SERVICE
Location
4—Four Wheels, front and rear.
4r—Four Wheels, rear only.
Type
I—Internal.
X—External.
Operation
A—Air.
H—Hydraulic.

V—Vacuum.
D or Dp—Dual Primary.

BRAKES—HAND
Location
C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
6—Six wheels.
P—Back of Power Divider.
J—Jackshaft.
T—Transmission.
F—Driveshaft.
Type
D—Trip-Stop disk.
I—Internal.
M—Mechanical.
X—External.
PD—Two drums on rear of power divider.
F—Mechanical, foot operated

BRAKE DRUMS
Material
a—Cast alloy iron.
A—American Cast Foundry.
C—Cast iron.
Cc—Composite Front, Cast iron in rear.
C—Centrifuge.

Cl—Copper iron.
Co—Composite.
CX—Front, centrifugal cast; rear, composite.
D—Dayton.
E—Ermalite.
G—Cummins.
N—Nickel iron.
S—Steel.
(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME
Type
C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center.
Tf—Tapered front.
A—Straight section side members, lined with oak inverts.

Z—Reinforced (X) member frame, box type sections.
BG—Box girder.
H—Heat treated.

REAR AXLE
Final Drive and Type
B—Bevel.
CD—Chain Drive.
F—Full-floating.
H or Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
3/4—Three Quarters Floating.
3/8—Semi-Floating.
T—Torque Tube.

GEAR RATIOS
(**) Only one ratio.
Drive and Torque
H—Hotchkiss (springs).
R—Radius Rods.
L—Parallel Torque Rods.
T—Torque Arm.

GOVERNOR STANDARD
Y—Yes.
N—No.

c.f.—Cab Forward design.
c.o.e.—Cab-Over-Engine design.
(D)—Diesel-engine equipped.
(T)—Designed for tractor use only.
(C)—Ford or Chevrolet Models.
(R)—Remanufactured Ford.
Δ—Denotes "Includes Cab" when used with weights or prices.

AVAILABLE
*—Conventional or C.O.E. available.
†—Air brakes available.
—Two or three speed auxiliary transmission available.
Δ—Two speed rear axle available.

CHEVROLET
—Includes spare tire, full fuel tank and cooling system.
—9 22.5 front tires are required when 10 22.5 dual rears are used.
—Tridemaster V-8 engine available.
—Thriftmaster Heavy-Duty engine available.
††—Turbo-Fire 162, 170, 205 engines available.
—Taskmaster V-8 engine available.
Δ—5-speed transmission available.
—Powermatic available.
—Front, 2.30 x .702; rear, 2.30 x 1.16.
ΔΔ—Jobmaster* engine optional.
—Overdrive optional.
††—Theoretical I.D. (journal diameter plus clearance) front, 2.6856; front center, 2.7166; rear center, 2.7478; rear, 2.7788. Total effective length (overall length minus chamfers) 4.127.

Δ—15,000 lb. capacity 6.17 axle available.
Δ—7 17.5 D optional.
ΔΔ—7 22.5 front tires are required when 8 22.5 dual rears are used.
Δ—8 22.5 front tires are required when 9 22.5 dual rears are used.
□—10 22.5 front tires required when 11 22.5 dual rears are used.
†—7 17 SF available.
†—488 sq. in. lining area used with 7 17 SF axle.
††—9 21 x 3 3/8 x H P type frame available.
††—Front, 2.69x1.06; rear, 2.78x1.19.
—Front, 2.30 x .78; rear, 2.30 x .98.
†—Powerglide optional.
†—Synchro-mesh 3-speed H.D. optional.
Δ—4-speed synchro-mesh transmission optional.
ΔΔ—4.11 available with optional overdrive; 3.55 available with optional powerglide.
Δ—7.20 available.
ΔΔ—Two speed rear axle available.
Δ—TM brake optional.
†—Hydramatic available.
†—4.11 available with optional overdrive.
ΔΔ—Spicer H.D. 5-speed transmission optional.
†—Air over hydraulic brakes available.
Δ—715 sq. in. drum area with optional 7 17 SF axle.

COLEMAN
—11 60 22 also available.
—FusA65 or Spicer 6352 also available.
—Cum HBR600 also available with horsepower of 165-1800.

KEY TO REFERENCES

DODGE
●—Two speed rear axle available.
Δ—Front only; rear, 9/22.5.

DUPLEX
†—Torque Divider, Timken 170-2 speed.

FABCO
††—See same footnote under Chevrolet.
—With 2-speed transfer case.
RC—Chevrolet axle remanufactured.
RF—Ford axle remanufactured.

FORD
Δ—Courier 176-hp engine with Fordomatic.
††—F-350, 9800 lbs. G.V.W. with dual wheels.
—F-600, C-600, B-600, 158-hp and 168-hp (governor) H.D. Power King engines also available.
Δ—F-700, C-700, B-700, 168-hp Power King engine also available.
—T-700, 302 cubic inch Cargo King engine also available.
††—F-750, C-750, 196-hp Cargo King engine also available.
—F-800, C-800, F-900, C-900, 212-hp Cargo King engine also available.
—F-700, F-750, B-700, B-750, C-700, C-750, only one ratio available.
—B-500 School Bus (cowl to axle dimension) 194 in. for 220 in. wheelbase.
—B-600 School Bus (cowl to axle dimension) 194 in. for 220 in. wheelbase.
†—F-350 Parcel Delivery (cowl to axle dimension) 106 in. for 122 in. wheelbase.
†—F-500, 7A in. x 2 1/4 in. x 1/4 in. frame standard on

130 in. wheelbase; 9 1/4 in. x 2 1/4 in. x 1/4 in. frame standard on 154 in. wheelbase.

FWD
†—Transport tractors with one man cab beside the engine.
Δ—23 1/2" rear axle is a driving axle plus a trailing axle.
—Model available in c.o.e.

KENWORTH
††—Timken T13129 PA Trail-Axle.
†—14.00/24, front; 16.00/24, rear.
—Optional transmission.
—C.O.E. optional.
—One man cab.
—Torque converter plus Torquematic transmission optional.
—Cab beside engine optional.
—Both C.O.E. and cab beside engine optional.
††—14.00/24 front; 18.00/25 rear.
—Cummins NHRSD 600.
††—Allison TCL 654 plus TG 607.

NAPCO
—NAPCO—Federal Truck Div., Northwestern Auto Parts Company (Chevrolet 4-wheel drive conversion).
††—See same footnote under Chevrolet.

OSHKOSH
—Includes cab.
—1091 sq. in.
—Hydraulic coupling optional.
—Dependent upon engine.

REO
Δ—Model 331-0A and 331-0A

LPG engines can be furnished.
Δ—Two speed axle available.
—Plus full outer channel, 9 1/4 x 1 1/4 x 1/4.
††—10A-LPG or 292-0A engine can be furnished.
—Front only; rear, 11 22.5.
†—Front only; rear 10 22.5.
—OH-160 or OH-160 LPG engine can be furnished.
—OH-160LPG engine can be furnished.
—Model OV-220 or OV-220LPG engine can be furnished.

STUDEBAKER
●—Two speed 5.93-8.10 or 6.48-8.86 optional.
—Front, centrifugal cast; rear, composite.

TRUCKSTELL
††—With 3 speed power divider.
Δ—Weight with cab and maximum tires.
—Including slip-over reinforcing frame channels.
†—Air brake optional.

WARD LA FRANCE
†—Available with optional rear axle.
ΔΔ—Available with 11 60 22 or 12 60 20 tires for G.V.W. of 60,000 lbs and optional front and rear axles.
ΔΔ—Auxiliary transmission, Fuller 3A65, 3B65, 3A92 and 3B92.

WILLYS
●—Complete vehicle-Pick-up Type body.
†—Three speed transmission, 2 speed transfer case.

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(Continued from Page 101)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Standard Minimum Maximum	Gross Vehicle Weight For Normal Service	Chassis Weight (See definition)	TIRE SIZES		Make and Model	ENGINE DETAILS				TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES			C-A Dimensions (Min. Std. W. B.)	Side Rail Dimensions	Type	
						Dual rear S-single rear	Maximum Front and Rear		No. of Cylinders, Stroke	Displacement	Comp. Ratio	M.B. Brake H.P. at R.P.M.	Number and Diameter	Governor Standard	Make and Model	Forward Speeds		Make and Model	Gear and Type	Drive & Torque				Gear Ratio	Make and Model	Operation	Linking Drum	Hand Location	Drum Material
1	Available		Opt	16200	457007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
2	2200	2200	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
3	2225	2225	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
4	2250	2250	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
5	2275	2275	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
6	2300	2300	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
7	2325	2325	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
8	2350	2350	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
9	2375	2375	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
10	2400	2400	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
11	2425	2425	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
12	2450	2450	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
13	2475	2475	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
14	2500	2500	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
15	2525	2525	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
16	2550	2550	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
17	2575	2575	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
18	2600	2600	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
19	2625	2625	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
20	2650	2650	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
21	2675	2675	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
22	2700	2700	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
23	2725	2725	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
24	2750	2750	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
25	2775	2775	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
26	2800	2800	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
27	2825	2825	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
28	2850	2850	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
29	2875	2875	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
30	2900	2900	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
31	2925	2925	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
32	2950	2950	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
33	2975	2975	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
34	3000	3000	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
35	3025	3025	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
36	3050	3050	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
37	3075	3075	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
38	3100	3100	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
39	3125	3125	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
40	3150	3150	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
41	3175	3175	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
42	3200	3200	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
43	3225	3225	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
44	3250	3250	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
45	3275	3275	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
46	3300	3300	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
47	3325	3325	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
48	3350	3350	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
49	3375	3375	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
50	3400	3400	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
51	3425	3425	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
52	3450	3450	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
53	3475	3475	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
54	3500	3500	Opt	17500	449007.00	2013	8.25	20	Wad 1957-K	6	3.81	3206	2.22	75	2800	1.75	20	1957-K	191	2525	2.5	84	2525	2.5
55	3525	3525	Opt	17500	449007.00	20																		

For Key to References and Abbreviations See Page 101

(Turn to Page 104, Please)

ATA WANTS IT* Signal-Stat HAS IT!

* New ATA Recommended Equipment Specification E-3-1955

THE PROBLEM:

To improve truck lighting and cure "Sitting-Duck" accidents.

ATA RECOMMENDATION:

"The purpose of this ATA Recommended Equipment Specification is to establish uniform specifications for the wiring and lighting of commercial motor vehicles. It is intended that recommendations herein contained will be used when re-wiring old vehicles and also used as the specifications for wiring and lighting when new vehicles are being purchased. Safety, efficiency, performance and uniformity are the objectives of this recommended practice."

- 3.09 Turn signals are lamps which indicate a change in direction by giving flashing warning lights on the side toward which the turn will be made. (SAE Class A, Type 1, only are to be used.)
- 6.01 Front turn signals shall be of the double faced (amber to front, red to rear) Class A, Type 1, mounted in accordance with SAE mounting specifications except when impractical due to vehicle design.
- 6.04 Turn signals shall be wired in such a manner that they will flash simultaneously to indicate vehicle disability.
- 7.01 Stop-Tail photometric requirements shall be in accordance with the current SAE specifications.

THE PRODUCT THAT DOES IT:



*Insist on Sigflare
for all around signaling protection*

SIGNAL-STAT SIGFLARE, the multi-purpose signaling system that conforms with every new ATA Lighting and Wiring Recommendation. It provides . . .

A—The most powerful Class A, Type 1, directional signals on the market with Double Face Lamps for front mounting and rear lamps to suit your individual installation.

B—The flare feature with positive pilot action that instantly and simultaneously flashes all 4 signal lamps to warn oncoming traffic that the vehicle is disabled.

C—2 Stop Lamps as powerful as Class A, Type 1, signal lamps.

D—2 Tail Lamps as powerful as the law allows.

. . . all in one system with as few as 4 Lamps and 1 Switch—a specially designed heavy duty flasher for tractors and combinations and a range of Stop/Tail lights for every type of installation—all exceeding SAE specifications.

For more information about Sigflare and a complimentary copy of the new ATA Lighting Recommendations, see your jobber, or write to:

Signal-Stat

DIRECTIONAL SIGNALS • SWITCHES • FLASHERS
Signal-Stat Corporation, 523-539 Kent Ave., Brooklyn 11, N.Y., U.S.A.

Line Number	MAKE AND MODEL	WHEEL-BASE	TIRE SIZES		ENGINE DETAILS					TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES		Type	
			Dual rear S-spring rear	Standard	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	M.P.G. at 55 M.P.H.	Max. Brake (Given)	Number of Main Bearings	Length	Make and Model	Forward Speeds		Make and Model	Clearance & Torque		Clear Ratio	Service	C-A Dimensions (Min. Std. W. B.)	Side Rail Dimensions
106	Dodge-Cant'd	106	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
107	Dodge-Cant'd	107	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
108	Dodge-Cant'd	108	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
109	Dodge-Cant'd	109	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
110	Dodge-Cant'd	110	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
111	Dodge-Cant'd	111	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
112	Dodge-Cant'd	112	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
113	Dodge-Cant'd	113	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
114	Dodge-Cant'd	114	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
115	Dodge-Cant'd	115	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
116	Dodge-Cant'd	116	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
117	Dodge-Cant'd	117	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
118	Dodge-Cant'd	118	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
119	Dodge-Cant'd	119	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
120	Dodge-Cant'd	120	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
121	Dodge-Cant'd	121	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
122	Dodge-Cant'd	122	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
123	Dodge-Cant'd	123	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
124	Dodge-Cant'd	124	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
125	Dodge-Cant'd	125	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
126	Dodge-Cant'd	126	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
127	Dodge-Cant'd	127	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
128	Dodge-Cant'd	128	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
129	Dodge-Cant'd	129	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
130	Dodge-Cant'd	130	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
131	Dodge-Cant'd	131	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
132	Dodge-Cant'd	132	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
133	Dodge-Cant'd	133	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
134	Dodge-Cant'd	134	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
135	Dodge-Cant'd	135	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
136	Dodge-Cant'd	136	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
137	Dodge-Cant'd	137	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
138	Dodge-Cant'd	138	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
139	Dodge-Cant'd	139	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
140	Dodge-Cant'd	140	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
141	Dodge-Cant'd	141	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
142	Dodge-Cant'd	142	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
143	Dodge-Cant'd	143	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
144	Dodge-Cant'd	144	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
145	Dodge-Cant'd	145	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
146	Dodge-Cant'd	146	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
147	Dodge-Cant'd	147	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
148	Dodge-Cant'd	148	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
149	Dodge-Cant'd	149	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
150	Dodge-Cant'd	150	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
151	Dodge-Cant'd	151	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
152	Dodge-Cant'd	152	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
153	Dodge-Cant'd	153	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
154	Dodge-Cant'd	154	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
155	Dodge-Cant'd	155	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
156	Dodge-Cant'd	156	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
157	Dodge-Cant'd	157	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
158	Dodge-Cant'd	158	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
159	Dodge-Cant'd	159	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
160	Dodge-Cant'd	160	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
161	Dodge-Cant'd	161	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
162	Dodge-Cant'd	162	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
163	Dodge-Cant'd	163	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
164	Dodge-Cant'd	164	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
165	Dodge-Cant'd	165	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
166	Dodge-Cant'd	166	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300
167	Dodge-Cant'd	167	12.5	11.25	6	3.317	10.300	10.300	10.300	10.300	10.300	10.300	10.300	10.300				

For Key to References and Abbreviations See Page 101

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MIDLAND'S Tractor-Trailer Braking System Meets LATEST Regulations ... *AND THEN SOME!*



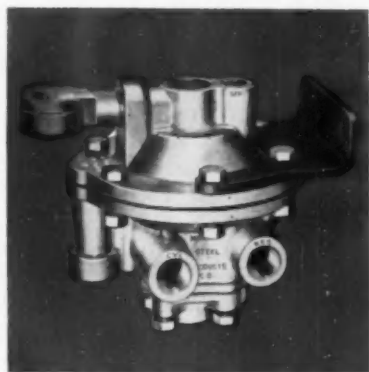
● Midland's tractor-trailer braking system meets all the latest safety regulations and gives you EXTRA, important benefits:

1. Tractor protection with the Midland system is *AUTO-MATIC*, so important in split-second emergencies.
2. Midland valves are large-capacity valves, giving you faster, more positive action.
3. Midland provides a *combination* manual and automatic dash control valve for instantaneous application and release of trailer brakes.
4. Midland eliminates manual shut-off cocks.

AND, for the ultimate in braking protection, Midland offers you its new axle-by-axle system.

When you order new Tractor-trailer equipment, specify Midland Power Brakes for extra quality performance, more positive protection. Make it Midland, too, when replacing or modernizing the braking system on your present equipment. Your nearest Midland distributor is anxious to serve you. Just give him a call.

MIDLAND GIVES YOU POSITIVE PROTECTION PLUS!



● On Midland-equipped units, if trailer breaks away from tractor, Buzzer sounds . . . instant-acting Reservoir Check Valve automatically seals air supply, giving tractor sufficient reserve . . . Break-Away Valve permits tractor brakes to be applied to bring tractor to safe stop . . . trailer braking system automatically applies emergency feature to stop trailer!



● The new Midland Emergency Relay Valve has dual compensating controls. One operates the relay section to supply air to the brake chambers in proportion to service control line air pressure.

The other operates the emergency section which insures you against total loss of air and automatically applies trailer brakes.



● Midland Air Compressors feature patented automatic inlet valves built into the cylinder head for greater efficiency, cleaner air, cooler operation—extra safety. Available in models 7.4 and 12 capacities, these compressors provide ample reserve braking power for the worst traffic emergencies, require a minimum of maintenance.

THE MIDLAND STEEL PRODUCTS CO.
6660 MT. ELLIOTT AVE. • DETROIT 11, MICHIGAN
Export Department: 38 Pearl St., New York, N. Y.



*Those Who Know
Power Brakes
CHOOSE MIDLAND!*

Get a Quick, Safe Power Reserve... **BUY**



2-Million-Mile Road Test Proved Sta-ful Best



Two million miles of driving . . . equivalent to 80 times around the world . . . proves the ability of these batteries to really take punishment. More than 2 years ago 100 Auto-Lite Sta-ful Batteries were taken off the production line. Tamper-proof seals were installed on the caps, and the batteries were then installed in

17 different makes of cars in all parts of the U.S. and Canada. Over a 25-month period, the cars were driven a total of more than 2 million miles over all types of terrain and under all climatic conditions. The batteries were inspected at regular intervals in that period only by authorized personnel.

AUTO-LITE STA-FUL—DRY CHARGED...

For More Economical Fleet Operation!

With fleet operators today, the swing is overwhelmingly to dry-charged batteries. To meet this fast-growing demand, Auto-Lite now offers its entire battery line, including Sta-ful, dry charged. There are good reasons for this:

- 1—Dry-charged batteries can be bought in larger quantities and stored indefinitely.
- 2—They are ready for use and factory-fresh when you need them and do not require trickle-charging or recharging during storage.
- 3—It takes only minutes to prepare a dry-charged battery for use . . . and it is at full strength when installed.

Auto-Lite Sta-ful . . . standard among premium batteries the world over . . . is ideal for fleet use. You'll cut down service time considerably because Sta-ful, with 3 times the liquid reserve of ordinary batteries, needs water only $\frac{1}{3}$ as often. And besides, they give long, dependable life . . . as proved by the grueling road test described below. Use Sta-ful Dry-Charged Batteries in your own fleet units. Your saving in service time will soon be proved.

As seen in picture at right, Auto-Lite "Activite" is packaged in completely leakproof bottles, and remains at full strength indefinitely. Dry-charged batteries can be activated in a few minutes.



Just check these results and see why you'll have less down-time and lower maintenance costs with Auto-Lite Sta-ful.

- * 9 out of 10 batteries subjected to this test needed water only two times a year, and none needed water more than three times a year.
- * Of the 100 batteries tested, not one failed.
- * At the end of 25 months of service, over 95% of the batteries exceeded the initial cold discharge voltage requirement of a new battery.
- * Over 81% exceeded the initial cold capacity requirement of a new battery.
- * Over 66% exceeded the initial 20-hour discharge requirement of a new battery.

AUTO-LITE

sta-ful

NEEDS WATER ONLY $\frac{1}{3}$ AS OFTEN

(Turn to Page 110, Please)

[illegible]

THIS BUGGY HAS
RUN 250,000 MILES
AND NEVER HAD ITS
HEAD OFF !

YES, **PHILGAS** SAVES
US MONEY ON
MAINTENANCE AS WELL
AS ON FUEL COSTS !

Figures from a mid-west express company.
Full details sent on request.

Again and again over a period of years, in small fleets and large ones, Philgas* as a motor fuel has proved that it *saves money* and gives *dependable performance* . . . under all conditions. You can get the same kind of results with Philgas. Write for full information.

Check These Philgas Advantages

- ✓ Burns completely with no oil dilution —less contamination.
- ✓ Low fuel cost—lowers operating costs.
- ✓ No cylinder wall washing—lowers cylinder wear.
- ✓ Longer ring and valve life.
- ✓ Cuts maintenance costs—thousands of miles more before overhaul.
- ✓ Quieter, no knocking—no smelly fumes or exhaust smoke.



*PHILGAS is the Phillips Petroleum Company trademark for its high quality LP-Gas or bottled gas (propane, butane).

PHILLIPS PETROLEUM COMPANY

SALES DEPARTMENT, Bartlesville, Oklahoma

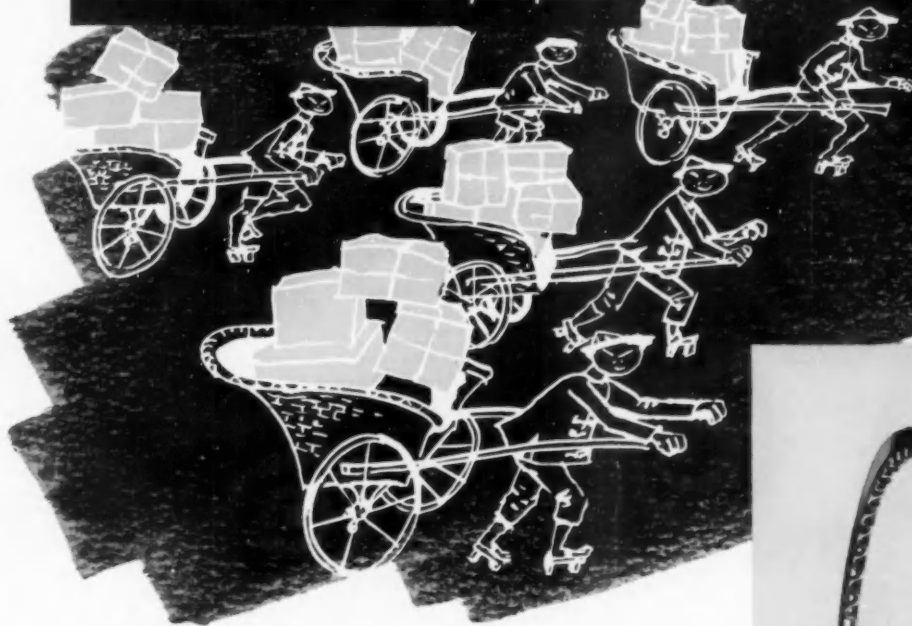
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ATLANTA, GA.—1428 West Peachtree Street
CHICAGO, ILL.—7 South Dearborn St.
DENVER, COLO.—1375 Kearney Ave.
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—1020 E. Holcombe Blvd.
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MINNEAPOLIS, MINN.—212 Sixth St. South
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OMAHA, NEB.—WOW Building

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SALT LAKE CITY, UTAH—68 South Main
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TAMPA, FLA.—1214 South Dale Mabry
TULSA, OKLA.—1708 Utica Square
WICHITA, KAN.—501 KFH Building

No matter what kind of fleet you operate



You'll be ahead with...

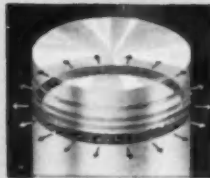
PEDRICK FORMFLEX CHROME RINGS

FEATURING THE EXCLUSIVE "EQUALIZER"

Every day . . . from Maine to California . . . more and more fleet operators discover the advantages of standardizing on Pedrick Formflex Chrome Rings: reduced down-time, lower operating and maintenance costs.

The Pedrick "Equalizer" provides these advantages because of its extraordinary flexibility. It delivers soft, uniform pressure *all around the cylinder wall*, insuring *maximum conformability*, even in badly worn cylinders. The end result is a more perfect, longer-lasting seal, higher compression, more effective oil control and much greater gas economy.

Start cutting your operating costs now—standardize on Pedrick Formflex Chrome Piston Rings. Remember . . . only Pedrick has the "Equalizer."



EQUAL PRESSURE EVERYWHERE
MEANS A PERFECT SEAL

DEPEND ON

Pedrick
FOR TOP PERFORMANCE

WILKENING MANUFACTURING CO.,
Philadelphia 42, Pa.

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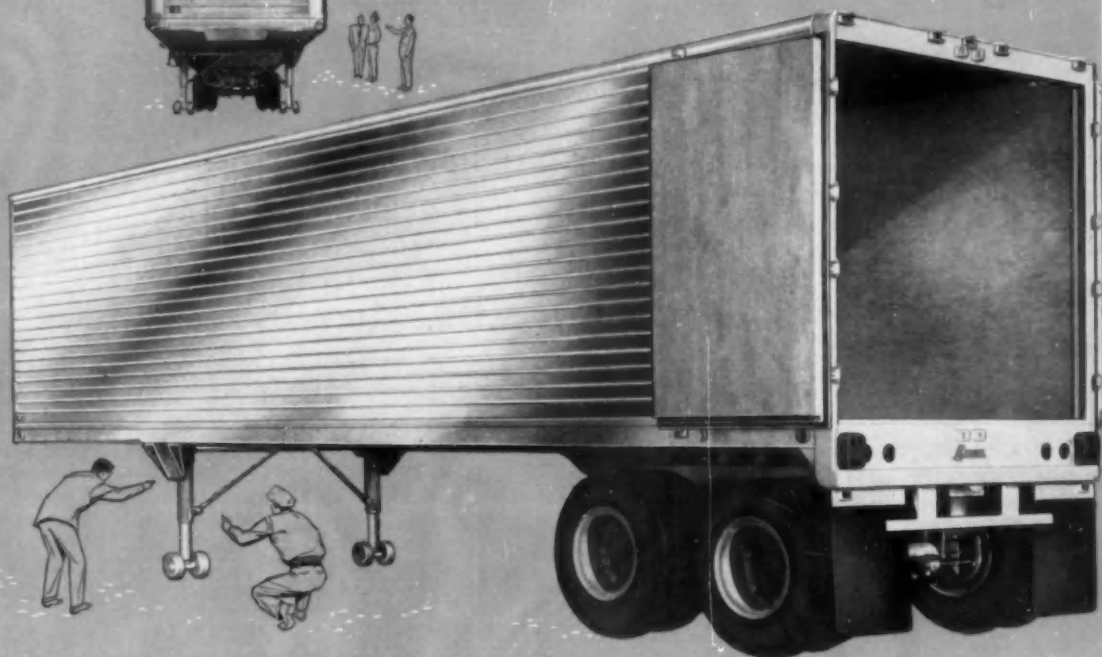
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Brown

ALUMINUM TRAILERS

Any Way You Look at it...



QUALITY

Makes the Difference!

It's the handsome appearance . . . economical maintenance . . . it's the trailer that keeps out of the shop, keeps out on the road. Proof positive is the longer life and greater resale value when you are ready to trade-in on newer equipment. Before you buy any trailer . . . get the facts about BROWN TRAILERS finer quality, low maintenance, higher cube and lighter weight. Write for folder BH-356 or call in your nearest Brown Distributor . . . NOW!

Sales & Service Coast-to-Coast



BROWN TRAILERS, INC. . . . Chicago . . . SPOKANE . . . Reading

1	Available	Wheels Driven	40000	1750	10.00	2013	11.00	24	Wau 135GZ	6-4x5	4516	3350	1555	2900	3-3x14	YFu 5A62	84	91x33x5.5	CP
2	Opt	40000	1750	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
3	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
4	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
5	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
6	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
7	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
8	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
9	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
10	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
11	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
12	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
13	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
14	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
15	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
16	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
17	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
18	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
19	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
20	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
21	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
22	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK	6-4x5	5256	4405	188	2800	3-3x12	YFu 5A62	84	91x33x5.5	CP	
23	Opt	60000	2350	10.00	2013	11.00	24	Wau 140GK											

For Key to References and Abbreviations See Page 101



"Tachographs are an essential part of our complete safety program"

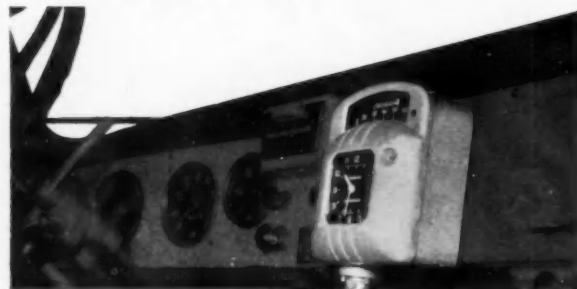
says: Claude Schlagenhauf, Dir. of Safety & Driver Personnel,
Akers Motor Lines, Inc., Gastonia, N. C.

You can parallel the experience of Akers Motor Lines, Inc., and cash in on the benefits gained from Tachographs as have hundreds of fleet operators all over the country. An investment in Tachographs continually pays big dividends in safer, more economical over-the-road operation. And because Tachographs encourage good driving habits, great savings are reflected in tires, fuel and mileage. Tachographs are easily mounted on the dash board and connect directly to the speedometer cable. Easy-to-see, easy-to-read dials show drivers time of day, m.p.h. or r.p.m., and total mileage. And, a signal light flashes on to warn the driver when your predetermined maximum speed is exceeded. All movements of the vehicle are automatically and permanently recorded on a wax-coated chart inside the durable aluminum case.

CHART TELLS ALL!

- When engine started
- How long it idled
- When vehicle was in motion
- How fast it traveled
- When it stopped—and for how long

The coupon below will bring you full details and data—send today for your free copy of Wagner Bulletin SU-3.



LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • CoMaX BRAKE LINING • NoRoL • AIR HORNS • AIR BRAKES • TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

COMMERCIAL CAR JOURNAL, July, 1956

General Office
GASTONIA, NORTH CAROLINA



AKERS MOTOR LINES, INC.



Please address reply to: P. O. BOX 79, GASTONIA, N. C. • TELEPHONE 4-2571

Wagner Electric Corporation
6400 Plymouth Avenue
Saint Louis 14, Missouri

Gentlemen:

The progress Akers Motor Lines, Inc., has made since its beginning in 1933, reflects the sincere achievements of a determined group of men and women all working together as a team. The end result has meant that shipping via Akers is "A Service You Can Trust."

Tachographs have made important contributions to our program of safety, expansion, and modernization. They are installed as standard safety equipment on all of our highway units. Tachographs have helped reduce accidents, materially assisted in reducing maintenance costs and have almost, if not completely, wiped out false claims against our drivers. There is no doubt in our mind that Tachographs are an essential part of our complete safety program. We and our good drivers appreciate them very much.

Sincerely yours,

Claude Schlagenhauf

Claude Schlagenhauf
Dir. of Safety & Driver Personnel

Wagner Electric Corporation

6476 PLYMOUTH AVE., ST. LOUIS 14, MO.

Please send a copy of Bulletin SU-3.

Name and Position _____

Company _____

Address _____

City _____ State _____

We operate _____ Vehicles

(NUMBER)

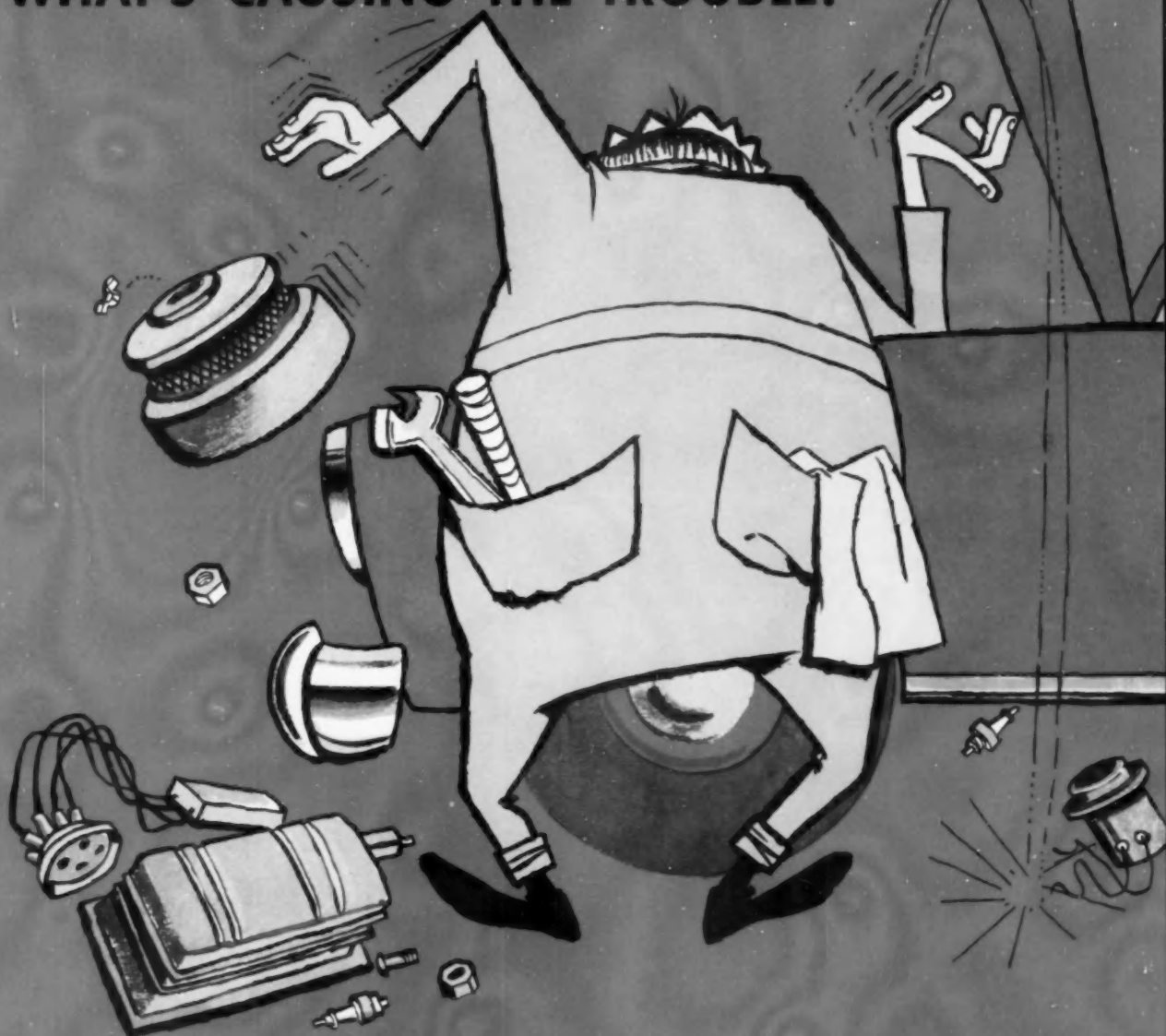
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For Key to References and Abbreviations See Page 101

WAIT!

**YOU DON'T HAVE TO TEAR
YOUR ENGINE APART TO SEE
WHAT'S CAUSING THE TROUBLE!**



**Just send one pint of used motor oil to Pure Oil . . .
we'll give you a complete engine analysis free!**

Turn the page to see what this service can do for you . . .

Free Pure Oil service detects hidden engine trouble

Pure-sure Used Oil Analysis
prevents engine breakdowns . . .
helps keep fleet units on the road

Pure Oil scientists aren't magicians, but you'll think they are when you see what they can find out from a pint of your used motor oil.

Without even seeing your engine, they can tell you what may go wrong with it, what would cause it, and what to do now to prevent a costly breakdown. Or they might tell you how to increase its efficiency. Or how to cut your operating costs.

To show you just how valuable this free service can be to your operation, Pure Oil wants to perform a Pure-sure Used Oil Analysis on one of your fleet units. No cost. No obligation. Mail the coupon for further information.

This offer must be limited to the 24-state area where
Pure Oil products are sold.

THE PURE OIL COMPANY, DEPT. 743
35 EAST WACKER DRIVE, CHICAGO 1, ILLINOIS

Without cost or obligation, please send information on obtaining a Pure-sure Used Oil Analysis for one of my fleet units.

Name _____

Title _____

Company _____

Street _____

City _____ Zone _____ State _____

6144

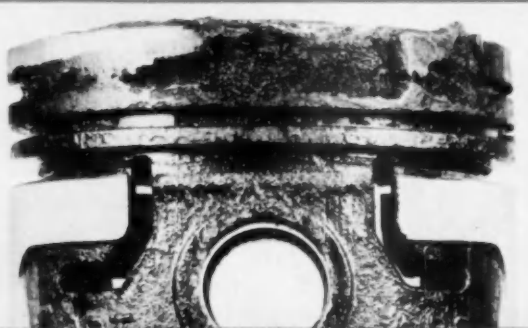
IT WORKS LIKE THIS:



Your pint of used motor oil is run through 17 different tests by Pure Oil technicians at the Research and Development Laboratories at Crystal Lake, Illinois.



From the results of the tests, a complete report is sent to you suggesting changes in operating procedure or warning of possible engine trouble.



Serious engine damage like this piston failure can then be avoided or corrected. You save a big repair bill and your unit has been on the road while the tests were being made.

**Be sure
with Pure**



The "Eucs" That Never Wear Out

Continued from Page 69

viced to the extent of cleaning the maze, "swabbing out the tubes," and changing the oil. Also, the primary engine oil filter bag is changed.

Every second time the oil is changed this same procedure is followed. In addition, the secondary lubricating oil filter bag is changed and the air cleaner gets a careful check for back pressure (i.e. loss of power or smoke is the determining factor here).

Condition Maintenance

From there on maintenance is almost entirely on a condition basis. When there are signs of injector or valve troubles the complete head assembly is usually changed at once. Blowby or high oil consumption is the signal for new rings and perhaps new cylinder liners, both of which can be installed in the vehicle and again within one working shift.

At an average of 5000 hours or approximately 100,000 miles the engines are pulled for complete overhaul.

Actually while the Eucs roll on a fantastic schedule and require very considerable maintenance routine, they are low on the shop's list of headaches. It is the bulldozers, the huge air compressors and other pieces of highly specialized equipment that take the real time and ingenuity of shop personnel.

Maintenance Priorities

So that the maintenance crew may know where it stands at all times, a careful system of priorities has been set up. First and foremost come the two dynamite trucks which must always be ready to roll on demand. Next come the two mobile cranes which also are vitally needed for the normal but

extra heavy-duty maintenance of the eight electric shovels. Then come the Euclids and dozers on which the daily production schedule depends. After them on the priority list are the service trucks, followed closely by the air compressors. Finally, and only when

they can be fitted into the schedule, come the passenger cars.

All in all, it is one of the most interesting operations we have been privileged to visit. The night we arrived there was a pea soup fog. As we crawled down the nearby highway practically "on instruments" we knew we had arrived when we heard the familiar roar of the Eucs at work.

END

Please Resume Reading Page 70



Your Working Partner for Profit

• To keep profits up, you have to keep costs down. And that's how Niehoff ignition parts become your working partner. Niehoff specialized engineering builds in quality that stays on the job longer—with longer periods of peak performance. Check with your jobber on the experience of other fleet owners and commercial repair shops in your area. All popular makes and models of trucks, buses, cars and tractors are covered by the Niehoff line.



C. E. NIEHOFF & CO.

Warranted IGNITION PARTS

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Warehouses: 250 W. 54th St., New York 19, N. Y. • 1800 Fairmont Ave., Philadelphia, Pa. • 254 Brighton Ave., Boston 34, Mass. • 2715 Main Street, Dallas, Texas • 95 Pine St., N. E., Atlanta 3, Ga.
Branches: 1330 W. Olympic Blvd., Los Angeles 15, Calif.

FATTY FLOORBOARDER, OUR BIG-FOOTED TRUCK DRIVER, SAYS: "SOME GIRLS ARE LIKE A ZIPPER NIGHTIE—JUST PULL SOMETHING AND IT'S ALL OFF!"



The last word in ladders. Every movement of Holan's 2100 Ladder is controlled hydraulically. It rotates 360°... reaches up to 40 feet in the air... elevates to a 75° elevation.



Write for the new 2100 catalog for technical information

J. H. HOLAN CORPORATION
4100 WEST 150TH STREET
CLEVELAND 11, OHIO

OTHER PLANTS: GRIFFIN, GA.; PHOENIX, ARIZONA;
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To: J. H. Holan Corporation
4100 West 150th Street
Cleveland 11, Ohio

Please send me the factual technical bulletin about Holan's 2100 Hydraulic Ladder.

Name _____ Title _____
Address _____
City _____ Zone _____ State _____

Fleet Course Calendar

HERE is an up-to-date calendar of fleet training courses for 1956. For complete addresses to write to for further information about the courses listed, see the Fleet Course Directory appearing in the November, 1955, issue, page 300.

Driver Training

North Carolina State College—One month long course beginning July 30, Sept. 3, Oct. 1, Oct. 29 and Nov. 26.

Driver Trainer

University of Kansas — July 30-Aug. 3.

Effective Fleet Operation

Course begins on date given, meets once a week in the evening thereafter for about 10 weeks unless otherwise noted.

Moorehead State Teachers College—Sept. 6.

University of Kansas—Sept. 16 (Kansas City).

Palm Beach County Vocational School, Fla.—Sept. 17.

Mary Karl Vocational School, Daytona Beach, Fla.—Sept. 18.

Fleet Maintenance

Rutgers University (N. J.) — Oct. 1-5.

University of Alabama — Oct. 8-12.

University of Minnesota—Oct. 15-16.

Northeastern University (Mass.)—Oct. 15-19.

Fleet Supervisor

University of Louisville (Ky.) — Aug. 20-24.

Pennsylvania State University — Sept. 10-14.

Purdue University (Ind.) — Sept. 17-21.

University of Minnesota — Oct. 15-19 (Minneapolis).

Heavy Equipment Operation

National School of Heavy Equipment Operation (P. O. Box 8243, Charlotte, N. C.)—One month long courses beginning July 30, Sept. 4, Oct. 1, Oct. 29 and Nov. 26. (For course description, see June issue, page 102.)

Terminal Management

Pennsylvania State University — Sept. 17-21.

Top Management Conference

Pennsylvania State University — Sept. 27-28.

Northeastern University (Mass.)—Oct. 1-5.

what's the
BIG NEWS
in
TRUCK
TIRES

The big news in truck tires—as in all tires—is, of course, **TUBELESS!** The tubeless tire answers a definite need for more efficient and economical fleet performance. It runs cooler, lasts longer—reduces maintenance, saves time and money.

INSURE THESE SAVINGS WITH PROPER SERVICE

Because of the extra rigidity and heavy beads built into new, large tubeless truck tires, it is extra important to use RuGLYDE Rubber Lubricant when mounting and demounting. RuGLYDE insures faster, safer, easier tubeless tire changes... won't cause rust... insures against damage to the air seal areas. Insures perfect bead seating, and RuGLYDE'S exclusive "Controlled Friction" action prevents after slippage.

Use RuGLYDE in the handy RuGLYDE Service Kit for best results. Write for details.



**AMERICAN GREASE STICK
COMPANY**
MUSKOGON, MICHIGAN

AN **AGs**
PRODUCT



SINCE **1906**

*Perhaps 2,000 makes of cars and trucks
have come and gone... But there are still*

FITZGERALD GASKETS

for every engine, gasoline or diesel

Also...

GREASE RETAINERS, CORK GASKETS,

FITZ-RITE TREATED FIBER GASKETS

FOR OIL, GASOLINE

AND WATER CONNECTIONS.

COMPLETE SETS FOR MOTOR REBUILDERS



In 1906 there were more than 75 makes of American cars; today about 20 . . . only 7 of which were being made when the first Fitzgerald Gasket was produced. Perhaps as many as 2,000 makes have come and gone in the intervening years . . . while Fitzgerald Gaskets have steadily kept pace with automotive progress . . . recognized throughout the world for their rugged dependability in today's high compression engines. Since 1935, we're proud to say, our gaskets have been sold abroad exclusively by the world's largest manufacturer of automobiles.

THE FITZGERALD MANUFACTURING CO.

TORRINGTON, CONNECTICUT

BRANCHES AND WAREHOUSES

LOS ANGELES, CALIF.; CHICAGO, ILL.

CANADIAN FITZGERALD LTD., TORONTO, CANADA

Inspection, Vital Tool for Shooting Par

Continued from Page 72

studies of the crankcase oil. We have used a Gerin test kit for several years and here is a case where it is indispensable. We kept careful check of each engine by taking samples of the oil as we raised mileages between checks. In this way we were able to determine the

extent of contamination, acidity, dilution and oil deterioration which actually reflect the mechanical condition of the engine and accessories.

The combination inspection and repair crews, that we have, consist of four mechanics, one electrician

and one body man. There is no set length of time for inspections because our inspectors are also our repair and overhaul group. Our inspectors perform the minor engine overhauls, clutch changing, the brake relining, transmission and differential changing.

Inspection and Repair

Our inspection system of a bus starts the night before the actual inspection. The night force is notified what buses are to be inspected the following day. When these buses tie up for the night, the engines are steam cleaned and the night men make out a work order, noting the various items that should be given particular attention. In the morning the electrician washes the batteries with a baking soda solution, and in the meantime the mechanics check on the mileages of the various units that we have on a mileage basis. That part of the program being completed, the bus is taken out on a road test. The body man goes along to check for rattling windows, doors, panels, and seats. The mechanics check for shimmy, upshift, downshift, brakes, differential, engine, clutch and transmission performance. The time consumed for the road test is about one-half hour.

Final Road Test

Returning to the garage, the mechanics spot their bus on the hoist. Should any of the units that are on a mileage basis have the accumulated mileage that is required of it, it is checked and tested very closely to see if it will go another 10,000 miles before it is changed. Should the mechanics have brakes to reline, the engine to be re-rung, the differential to be changed, the clutch or transmission to be changed, they will complete that work first and then start their inspection. While the mechanics are checking the overhead, the electrician performs all of his work while the bus is still at floor level. The top side being completed, the mechanics raise the bus to inspect the underside. The body man performs his duties regardless of the position of the bus.

(TURN TO PAGE 126, PLEASE)



HOOF GOVERNORS

give you the two most important factors in any fleet operation...

ECONOMY

SAFETY

Fleet operating figures prove the dollar-wise effectiveness of HOOF Governors in all vehicles...

greater gas and tire mileage, less maintenance and repair, fewer accidents.

After more than 28 years there's still no single item bought that costs so little, saves so much.

Exclusive patented Cantilever Spring assures Hoof's more accurate speed control, simplified construction and longer life.



Write for specific facts on your operations.

HOOF PRODUCTS CO.

6543 So. Laramie Avenue • Chicago 38, Illinois



Edward L. La Salle, Jr.
La Salle Trucking Co.
San Diego, California

"250,000 miles between engine overhauls with UNION OIL LUBRICANTS"

"For clean valves, freedom from lacquer and varnish formation, minimum wear and top performance we've found that Union Oil lubricants can't be beat.

"Our findings are the result of tests made in our gas and diesel rigs running over our regular routes, the toughest of which is between sea-level San Diego, over the Laguna Mountains through the below-sea-level Imperial Valley, and across the desert to San Luis, Mexico.

"In spite of these widely varying conditions we find that our equipment is averaging 250,000 motor miles between engine overhauls... 500,000 miles on transmission and 600,000 miles on differentials. That's why we use Union Oil lubricants exclusively in our more than 60 pieces of equipment, diesel and gas alike."

The success which La Salle Trucking Company has had with Union Oil products over the years is typical of our hundreds of trucking customers everywhere. Test them in *your* equipment over *your* routes and you'll agree with Ed La Salle... *Union Oil lubricants can't be beat.*

UNION OIL COMPANY
OF CALIFORNIA



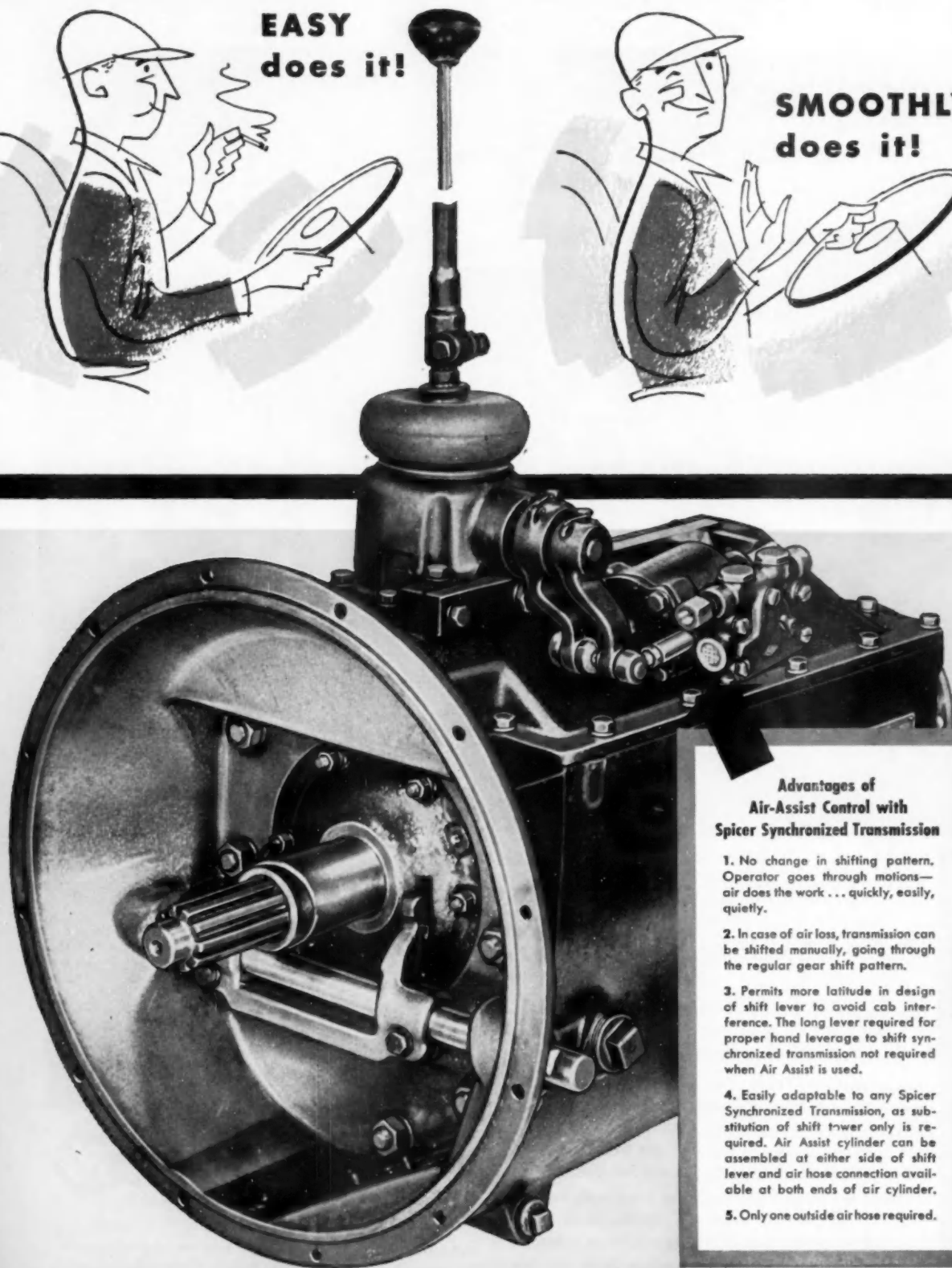
Los Angeles: Union Oil Bldg. • New York: 45 Rockefeller Plaza • Chicago: 1612 Bankers Bldg. • Philadelphia: Eastwick Ave. & Edgewood St.
Dallas: 313 Fidelity Union Life Bldg. • Kansas City, Mo.: 612 W. 47th St.
New Orleans: 644 National Bank of Commerce Bldg.



EASY
does it!



SMOOTHLY
does it!



**Advantages of
Air-Assist Control with
Spicer Synchronized Transmission**

1. No change in shifting pattern. Operator goes through motions—air does the work . . . quickly, easily, quietly.
2. In case of air loss, transmission can be shifted manually, going through the regular gear shift pattern.
3. Permits more latitude in design of shift lever to avoid cab interference. The long lever required for proper hand leverage to shift synchronized transmission not required when Air Assist is used.
4. Easily adaptable to any Spicer Synchronized Transmission, as substitution of shift tower only is required. Air Assist cylinder can be assembled at either side of shift lever and air hose connection available at both ends of air cylinder.
5. Only one outside air hose required.

DANA CORPORATION • Toledo 1, Ohio



AIR
DOES IT... *in any shift pattern*
under any operating conditions...

with the new **Spicer** **AIR ASSIST** SHIFT

Take it easy, man . . . take it easy! Take it easy . . . with the Spicer AIR-ASSIST doing all your endless, tiresome shifting routine!

Air does the heavy work . . . powerful compressed air at your fingertip control. All you do is go through the shifting motions . . . AIR-ASSIST easily, smoothly, quietly guides the gears through the most intricate shifting pattern.

The AIR-ASSIST Shift adds another feature to the long list of advantages already offered by the Spicer Synchronized transmission:

- Equal Shifts for Driver Convenience
- Positive Blocker Type Synchronizers
- More Leverage for Ease in Shifting
- Alloy Steel Carburized Gears
- TOCCO Fork Pads for Long Wear
- Gear Hopping Guards
- Large Bearings for Long Mileage

The AIR-ASSIST Shift is available only on Spicer Synchronized Transmissions . . . optional on new equipment, or available as a replacement unit on Spicer Synchronized Transmissions now in use.

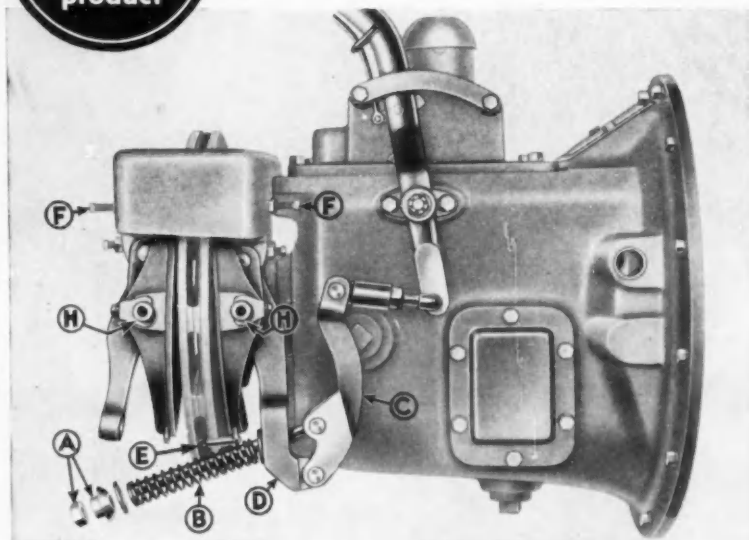
Over 250,000 Spicer Synchronized Transmissions have been installed in heavy-duty trucks and busses, for a wide range of civilian and military services. Ask Spicer engineers to help you adapt the Spicer Synchronized Transmission and the new AIR-ASSIST Shift to your needs.



SPICER PRODUCTS: TRANSMISSIONS • UNIVERSAL JOINTS • PROPELLER SHAFTS • AXLES • TORQUE CONVERTERS • GEAR BOXES • POWER TAKE-OFFS • POWER TAKE-OFF JOINTS • RAIL CAR DRIVES • RAILWAY GENERATOR DRIVES • STAMPINGS
SPICER and AUBURN CLUTCHES • PARISH FRAMES • SPICER FRAMES



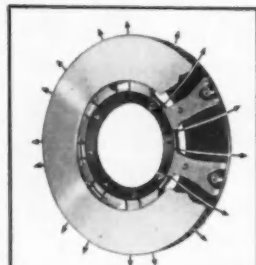
It Pays to Specify TRU-STOP Brakes



How TRU-STOP Brakes save more money than they cost!

TRU-STOP performance in just one emergency may more than offset any additional first cost. But their true economy shows up when it comes time to adjust or reline.

TRU-STOP brakes are adjusted and relined *without dropping the drive shaft*. Both are quickly and easily done with only a few simple tools. Down time is reduced to a minimum.



Longer Lining Life

• The terrific heat generated in braking cuts lining life. TRU-STOPS quickly dissipate this heat. Most of the disc is exposed to the air even during braking. And a cooling jet of air circulates through the disc, prolongs lining life.

See how easily adjustment is made (illustration above)

- 1 Tighten nut **A** so that spring **B** exerts enough pressure to bring lever **C** to stop solidly against shoe lining **D**.
- 2 Insert 1/32" shim between front shoe lining and disc and adjust pull-rod to maintain this clearance, first being sure to have hand-lever in full release position.
- 3 Further tighten nut **A** so that rear shoe lining is firm against disc but so that shim in front can still be removed. Remove shim.
- 4 See that tension spring **E** is in place, then adjust screws **F** so that linings are parallel with disc.

See how easily relining is accomplished

- 1 Remove nut **A**.
- 2 Remove spring **E**.
- 3 Apply hand lever so that rear arm can be swung back clear of tie rod and spring.
- 4 Remove shoe pin locks **H**, and drop shoe.
- 5 Replace relined shoes and adjust as per instructions.

ACCO



For full details write for booklet

**Automotive and Aircraft Division
AMERICAN CHAIN & CABLE**

601 Stephenson Bldg., Detroit 2
2216 South Garfield Ave., Los Angeles 22 • Bridgeport 2, Conn.



Inspection . . .

Continued from Page 122

The inspection being completed to the satisfaction of the inspection crew, the bus is then ready for the final road test. The final road test includes the fifth wheel with a speedometer to check and adjust the upshift and downshift of the transmission. The brake testing machine is also taken along to record the stopping distance of the foot brakes and hand brake.

END

Please Resume Reading Page 73

Bearing Failures . . .

Continued from Page 81

driver is a little remiss in checking the oil because it represents too much difficulty to get at it.

Bearing Overloading

Overloading (Fig. 5) the engine bearings can be deliberate or it can be accidental wherein the driver is not too aware that he is doing it.

Overloading can come from lugging at low engine speeds, which performs one type of overloading, or it can evolve from excessively high engine speeds brought about by revving the engine too greatly by one way or another. Either is blameable upon driver tactics.

Corroded Bearings

Corroded bearings, of which Fig. 6 is an example, is indicated as 6.3 per cent on the chart. This is somewhat high in a percentage, probably because it is difficult to diagnose and be sure the answer is correct. It is thought that more bearings are sent in for an analysis for this reason.

Under "other" (Fig. 7) comes those that we cannot determine what is the major cause, or we are given a bearing that is so badly "beat up" that only a yahooite could tell what caused it to fail.

END

Please Resume Reading Page 82

MODEL 42-12' BODY



130"

**DIVCO
TRUCKS
DELIVER
THE GOODS!**

MODEL 52-10' BODY



117"

The rugged Divco "Dividend Series" Truck is now available in a 10' body as well as the popular 12' body. A wide selection of optional features makes either of these trucks adaptable to your specific load requirements.

Specially engineered for multi-stop operation, these Dividend Trucks feature big payload capacity with a minimum overall size . . . makes for extreme maneuverability and maximum use of garage and dock space.

See your local Divco Dealer for details on how you can have the flexibility of a custom built job with the advantages and economies of a production built truck.

MODEL 42

470 cu. ft. Cargo Capacity

7,000 GVW

10,000 GVW

12,000 GVW

14,000 GVW*

130" Wheelbase

MODEL 52

412 cu. ft. Cargo Capacity

7,000 GVW

10,000 GVW

12,000 GVW

14,000 GVW*

117" Wheelbase

*(Available factory insulated and refrigerated)

DIVCO TRUCKS

DIVCO CORPORATION

22000 Hoover Road
Detroit, Michigan

OVER 80% OF ALL DIVCO TRUCKS BUILT SINCE 1927 ARE STILL IN DAILY USE!

Miracle Battery? No, Not Yet

Continued from Page 92

was quite likely because they had the nickel-cadmium and didn't have the lead-acid. I know of no patents that would keep any manufacturer from making a battery with nickel and cadmium. If it is ever proven that a battery with nickel and cadmium is more effi-

cient and more economically sound than lead-acid, there will be many manufacturers of this type of battery in the United States.

There is a very practical economic reason for their failure to make automotive headway. Certain materials needed in the man-

ufacture of Nickel-Cadmium batteries are very costly and are in very limited supply throughout the world. It is obvious that if a satisfactory battery could be made with nickel-cadmium for automotive use, such a battery would cost many times as much as your lead-acid battery. They would probably retail for as much as \$140.00 in a six-volt battery, and \$275.00 in a 12-volt battery. Obviously, at such prices, they would not find a very enthusiastic market, even if they did have a longer life expectancy.

DEMURRAGE PROBLEMS?

THESE LEASE CYLINDERS
MAY BE THE ANSWER



• AVOID DEMURRAGE CHARGES

If regular loan cylinders last you longer than 30 days, you can avoid demurrage charges with these lease cylinders.

• CHOICE OF CYLINDER SIZES

Two sizes each of oxygen and acetylene cylinders are available under lease agreement.

• STEADY SUPPLY ASSURED

Stocks of full cylinders are maintained in even exchange for your empties. You pay only for gas. No waiting for cylinders to be filled.

• NO MAINTENANCE OR REPAIR COSTS

LINDE maintains your lease cylinders against normal wear and tear and retests them periodically at no cost to you.

• ASK FOR FULL DETAILS TODAY

Let your LINDE distributor show you how much you can save by leasing oxygen and acetylene cylinders. Or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: Union Carbide Canada Limited, Toronto.

Cylinder	Style	Capacity, cu. ft.	Height, in.	Diameter, in.	Weight	
					Full lb.	Empty lb.
Oxygen	Q*	80	35	7 1/4	70	65
	S	150	51	7 3/4	92	80
Acetylene	WQ	60	24 1/4	7 3/4	55	51
	WS	133	35 1/2	8 1/2	78	69

*In some areas, Style XL, 70 cu. ft.

GET IT FROM YOUR **LINDE** DISTRIBUTOR

The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation

Lead-Acid Battery

The over-guaranteed lead-acid batteries are only run-of-the-mill lead-acid batteries, which should have been guaranteed for 18 months, or maybe 24 months, in line with sound industry practice.

The lead-acid battery industry, from a technical standpoint, has not been asleep. Many improvements have been made in storage batteries recently. Were these batteries called upon to do no more than the batteries of the 1930's, I feel sure they would last much longer. But today, the 12-volt batteries in the new cars, with all the new gadgets, the air conditioners, the heavy generators, etc., don't appear to have more than the former two to three year life-expectancy.

At best, the 12-volt battery is
(TURN TO PAGE 130, PLEASE)



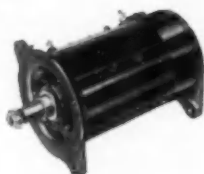
"What do you mean 'You were struck by a pedestrian'?"

Leece-Neville

Electrical Equipment NOW STANDARD

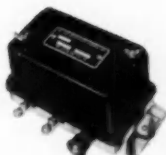
on Cummins Diesel Engines

**H and NH SERIES
J SERIES**

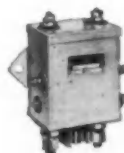


**L-N HEAVY-DUTY
D.C. GENERATORS**
Swivel mounting (as
shown) or strap mounting

L-N REGULATORS
Rugged construction for heavy
duty and reliable control

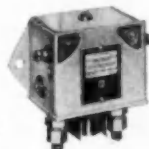


**L-N
CRANKING
MOTORS**
High torque, fast cranking
for quick starts



L-N MAGNETIC SWITCHES

Series-parallel



Cranking

**REPLACEMENT UNITS and SERVICE
NOW AVAILABLE THROUGHOUT
THE UNITED STATES and CANADA**

FLEET OPERATORS: Please write
for new Leece-Neville Service Directory
listing names and addresses of over 1200
service and sales locations. There are
L-N Central Distributors with warehouse
stocks in more than sixty key cities.

THE LEECE-NEVILLE COMPANY • CLEVELAND 3, OHIO

**YOU CAN
RELY ON**

Leece-Neville

Automotive Electric Equipment Since 1909

TRUCK • BUS • DIESEL • INDUSTRIAL • PASSENGER • RAILROAD • MARINE • OFF-HIGHWAY



ALTERNATOR SYSTEMS



D.C. GENERATORS



REGULATORS



CRANKING MOTORS



SWITCHES



SMALL MOTORS

Miracle Battery?

Continued from Page 128

only slightly larger than the old six-volt. True, it has six cells instead of three, but each of these cells is only a little over half as large as the cells of the six-volt battery, so over all, the battery is not much larger than the six-volt in terms of wattage capacity.

Today's Batteries

Battery improvements have made more of today's batteries reach the two to three year bracket. True, we can build a battery that would run much longer but we have a space limitation in the cars and secondly, we have a price limitation in the buyer's mind. Also, we find in battery selling that two years suits the customer just right, and in most cases he does not want to pay ad-

ditional to get the promise of longer life-expectancy. Taking all these limitations into consideration, and watching today's 12-volt battery in operation, I would say that two to three years of reasonably hard driving is about all that can be expected of them in most cases, despite any longer guarantees, or sales department claims.

Improvements in storage batteries have resulted in two and three times as long on the SAE overcharge life test as formerly. These improvements have resulted in 97 per cent charge retention over a stand of 28 days, which is quite substantially more than in former years.

Separators made of glass wool, diatomaceous earth and latex have resulted in amazing increase in life cycle capacity. For example, we are getting over 1000 cycles out of our No. 1 battery today, whereas SAE standards call for only 275.

Vibration machines have been used to point out weaknesses in mechanical construction. These have been strengthened to the point where a battery will stand the vibration test for hours today, whereas before, something would give in less than half that time. Dry-charged batteries have been developed to a high point of efficiency.

END

Please Resume Reading Page 94



When you read that a BRADEN Winch is rated at 3,000, 6,000 or 20,000 pounds, you can be sure the rating is conservative. Each model is put through a "torture test" before its rating is established. The BRADEN testing machine is constructed so that the winch being tested will undergo the same type of "pull" experienced in actual operations. That's why we say, "BRADEN Winches are SAFER."

write for
complete
catalog

BRADEN WINCH COMPANY
P. O. Box 547, Broken Arrow, Oklahoma

BRADEN
Winches

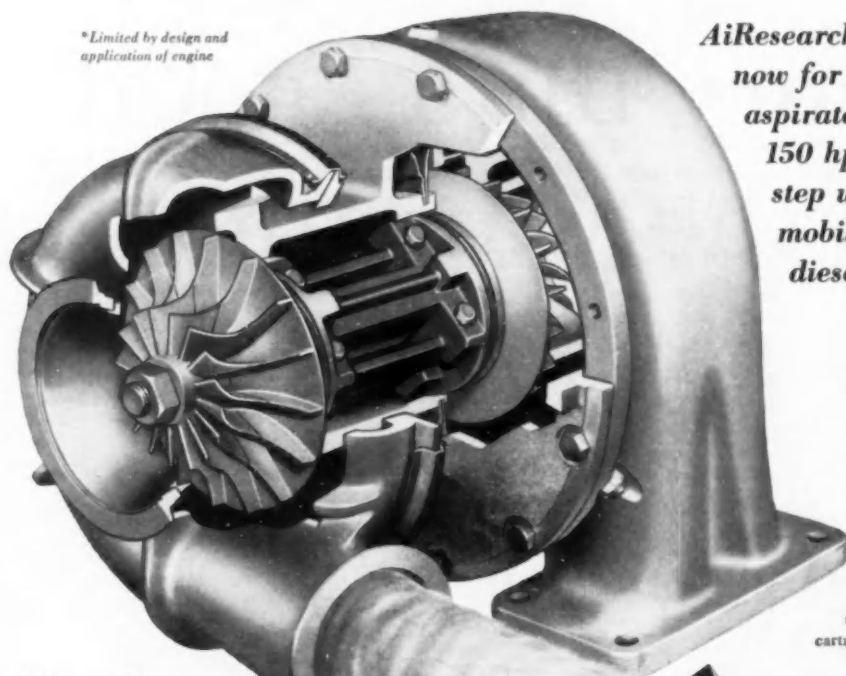


"Well now, that's a little out of our line. Have you tried castor oil?"

COMMERCIAL CAR JOURNAL, July, 1956

AiResearch Turbochargers improve diesel engine performance up to 100%*

* Limited by design and
application of engine



*AiResearch units are available
now for use with normally
aspirated diesel engines of
150 hp and up. They
step up performance of both
mobile and stationary
diesels, land or marine.*



**Removable cartridge simplifies
repair and overhaul**

This cartridge contains the
turbocharger's rotating assembly,
bearings and seals in a factory
balanced package. It can be replaced in
minutes with another factory balanced
cartridge by a mechanic on the scene.

AiResearch has
more experience in
the design and manufacture
of small turbomachinery than
any other company. AiResearch
turbochargers are the most efficient and
safest units of their kind. New additions to the
AiResearch family of turbochargers have widened
their range of application in the diesel engine industry.

Our engineers welcome the opportunity to work with you
in improving the performance of your diesel engines. We are
happy to confer on applications of the turbocharger principle to
your power plants.



AIRESEARCH TURBOCHARGERS NOW AVAILABLE

MODEL	T-10	T-15	T-16	T-30
Diameter — in. nom.	9	15 1/4	11 1/2	15 1/4
Length — in.	9	16 3/4	15 3/4	17 1/4
Weight — lb.	39	125	100	135
Output — lb./min. (Standard Conditions)	25-40	35-65	45-65	70-95



AiResearch Industrial Division

9225 South Aviation Blvd., Los Angeles 45, California

DESIGNERS AND MANUFACTURERS OF TURBOCHARGERS AND RELATED MACHINERY

...every bit as good
as the warranty
says it is



Listen to Lowell Thomas Newscast on the CBS Radio Network. See local listings for time and station.

B

attery performance depends upon the battery itself—not the warranty. Obviously, a manufacturer can increase warranty periods without any change in the batteries—but this does nothing to improve battery life and performance.

Delco builds better batteries, then extends the battery warranty. The new performance and long life of Delco batteries resulted from the combined research and engineering skill of Delco and General Motors. Tests at the General Motors Proving Ground show a performance that far exceeds anything encountered in normal fleet service.

You'll probably never have occasion to use a Delco warranty—simply because the battery is every bit as good as the warranty says it is. That's the Delco way of building batteries.

Wet or dry charge, Delco Extra-Duty batteries give you the lowest possible cost per mile of operation—and Delco batteries are available *everywhere*.

EASILY STORED

Delco Dry Charge batteries can be stored indefinitely and still give you instant, factory-fresh power *without* an initial electrical charge.

6- and 12-VOLT MODELS

There's a right Delco battery built for every specific application and type of service, including the new 12-volt group for 12-volt electrical systems.

LOTS LONGER LIFE

Delco's unique grid design increases battery life as much as 100 percent by even distribution of current and superior resistance to overcharge and corrosion.

ZIP-CLIP-POUR

That's how easy it is to fill a battery with Delco's new electrolyte package that's safe, convenient and disposable.



AVAILABLE EVERYWHERE THROUGH DELCO BATTERY DISTRIBUTORS

SAE Reviews Truck and Bus Problems

Continued from Page 91

equipment as the low pressure warning, the trailer emergency relay valve, with a no-bleed back feature, the tractor protection valve with a manual control, safe operation can be assured. Most of Baltimore Transfer's vehicles have already been equipped with

these devices. Other vehicles can be readily changed over, he said, and will be modified to meet the ICC regulations at an early date.

Emergency Brake Operation

Here is what Mr. Bennett says with regard to the effectiveness of

his vehicles equipped in this manner:

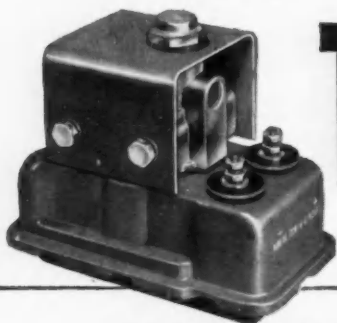
"A number of tests have been conducted to determine the effectiveness of some of these emergency features which we have included in our equipment. A 56,000 lb gross weight tractor and tandem axle trailer were used to make these tests, all of which were made at 20 mph. The first runs were made with the normal braking applications. We were able to stop the combination in about 28 ft as measured with a detonator.

"The next runs were made with the use of the hand control feature of the tractor protection valve. This meant that we were stopping the unit with the use of the trailer brakes only. In this case we were able to stop the unit in approximately 56 ft. We shut off the service line to the trailer in order to insure that we were making the stop with only the air which we had in the trailer reservoir.

"As a third test we made runs using only the tractor brakes. In this case we shut off the controls to the trailer, bleeding down the trailer tank to make sure there was no air available for use. Here again we made stops in about 56 ft. These various tests, of course, are on a trial basis but they definitely indicated that we would not have a runaway had the brakes

(TURN TO PAGE 136, PLEASE)

Less "Roadside Time" MORE PAY TIME!



STEWART-WARNER electric fuel pumps for trucks, buses and cars

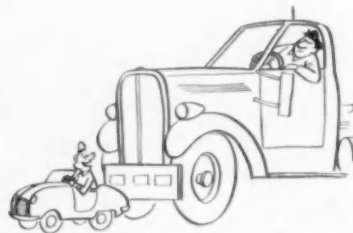
- Operate independently of engine to assure positive flow of gas—always!
- Insure instant starts—regardless of weather. No vapor-lock!
- Heavy-duty construction. Weatherized finish, in bright green baked enamel.

- Sealed against rain and road splash!
- No bellows, pistons or rocker arms to wear. Runs cooler, lasts longer.
- Simple installation on any truck, bus or car.

See Your Dealer for Complete Details, or Write:

STEWART-WARNER

Instrument Division, Dept. DD-76
1840 Diversey Parkway, Chicago 14, Illinois



"How about a shove?"



Tanker fleet stays afloat with Genuine Ford Parts

"Our mechanics replace with 100% Genuine Ford Parts. They tell me that they fit like the originals and wear as well, too," says George E. Hurley, President, Eastern Tank Lines, Inc., Somerville, Massachusetts.

More and more fleet operators, like Mr. Hurley, are discovering that Genuine Ford Parts are built right to keep Ford fleets out where the money is.

All Genuine Ford Parts are built to the same rigid specifications as the original Ford parts they're replacing. That means they're made to fit "just right"—cut costly installation time. Then, too, Ford parts must pass gruelling lab and track tests before manufacture. That means they're built to last longer in your Ford fleet.

To keep your fleet "on the road," specify Genuine Ford Parts . . . made right, to fit right, to last longer.

This Eastern Tank Lines "tanker" is ready to roll again



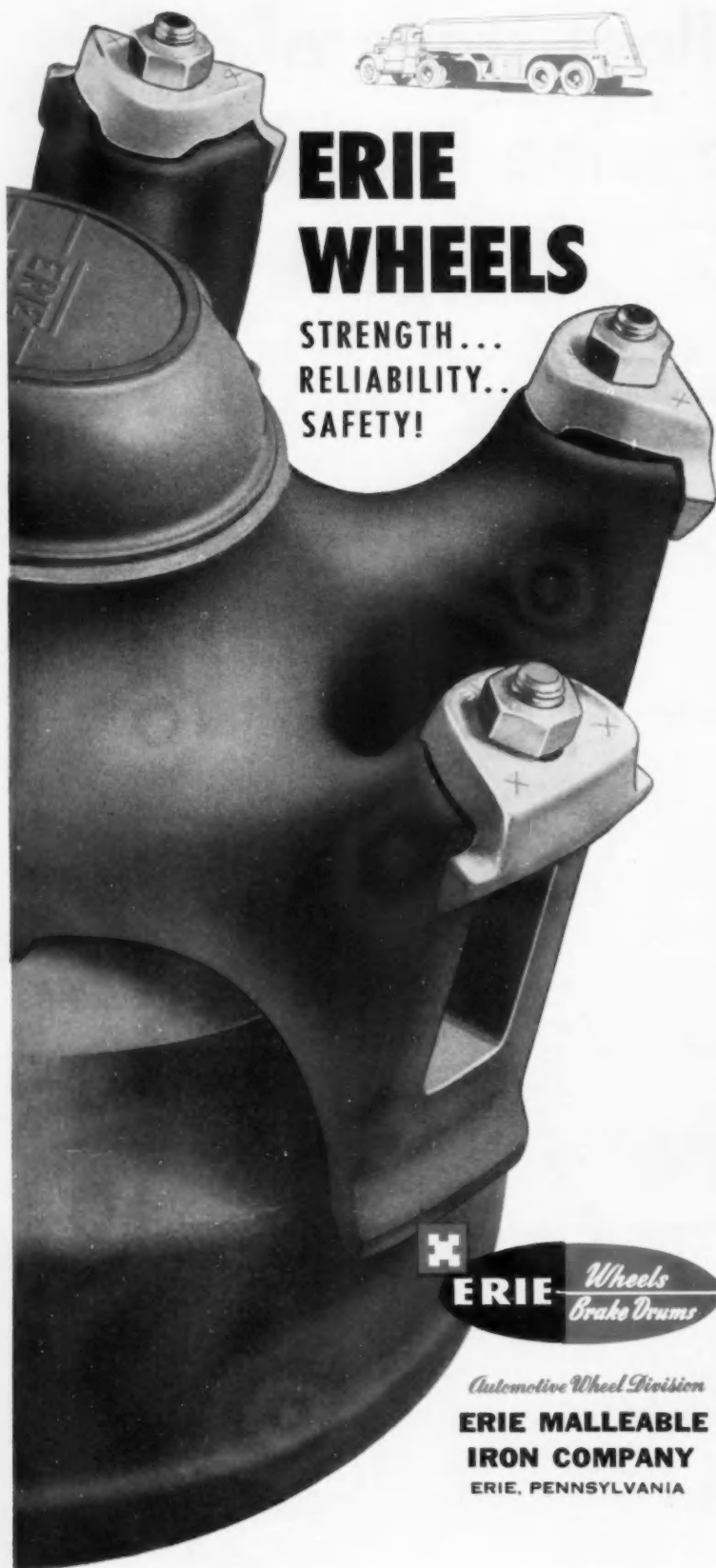
KEEP YOUR FLEET ON ITS FEET





ERIE WHEELS

STRENGTH...
RELIABILITY...
SAFETY!



ERIE

*Wheels
Brake Drums*

Automotive Wheel Division

**ERIE MALLEABLE
IRON COMPANY**
ERIE, PENNSYLVANIA

...Truck and Bus Problems

Continued from Page 134

been used in the same manner on a grade.

Importance of Maintenance

"Good maintenance cannot be over-emphasized in regard to the braking system of any combination of vehicles. No braking system will be any stronger than the maintenance that is provided. Every effort should be made to keep the entire control system as simple as possible in order to insure that it get the best maintenance available. The use of intricate controls may very easily defeat the purpose for which they are intended. . . .

"Recent considerations for new legislation on brake safety equipment have been centered around two different concepts of the problem. One group have advocated an axle by axle protection while others have advocated the vehicle by vehicle protection. The equipment that is now in use by the Baltimore Transfer and Motor Freight Express would undoubtedly come under the latter category. However, it is the belief of the writer that we have excellent safety protection in this equipment and it would seem really more appropriate to simply see that we have good safety protection for the combination units that we are operating on the roads today. It is believed that

(TURN TO PAGE 138, PLEASE)



"When I said, 'Hit the air', Smedley, this isn't exactly what I had in mind!"

HANSEN

HARDWARE for commercial bodies and industrial applications

The Tougher ^{the} *Service*

The Better

PLUS VALUES always show up in Hansen Hardware—in easier application, longer service and lower upkeep cost. This means satisfactory performance and repeat business.

Among the products noted for their plus values are these:

112 Lock. Locks three doors as solidly as one door. Especially adapted for bodies with sliding doors.

103 three-point Lock. Locks doors at three points. Complete, including rods, lock and handle.

107 three-point Lock. Wide striker bolt at center is slightly beveled to insure tight, rattle-proof doors.

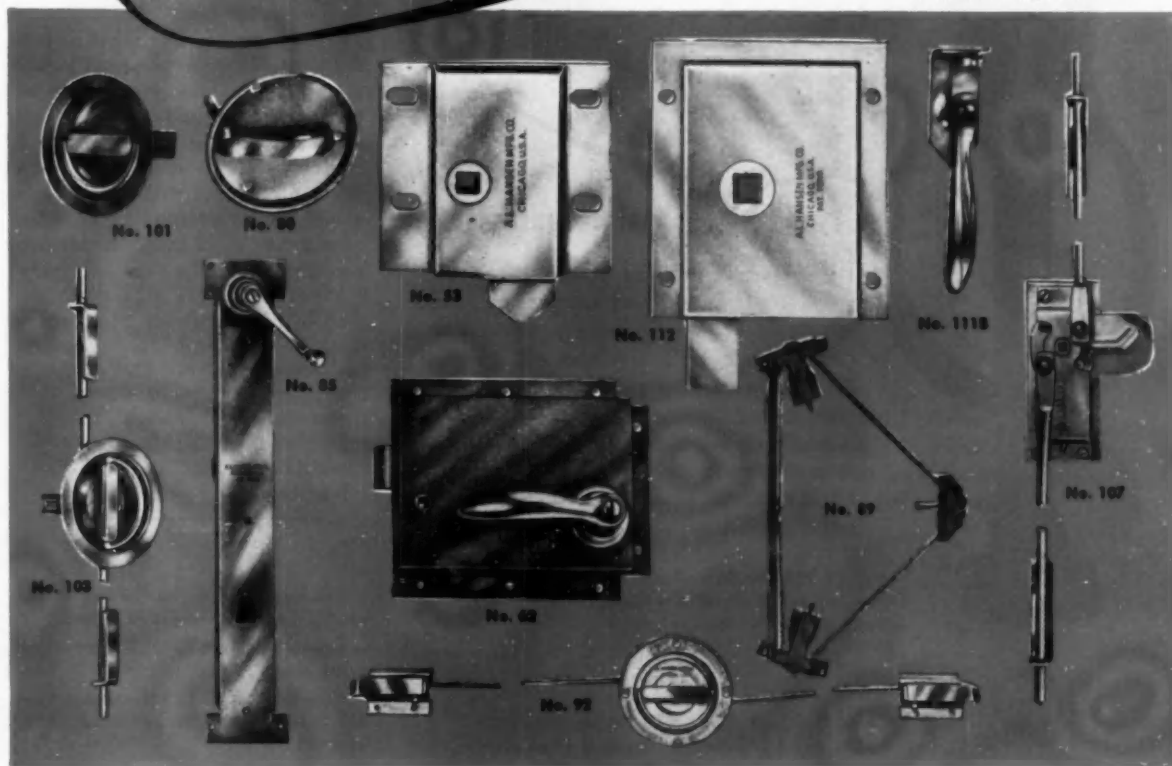
89 Triangle Regulator. Provides remote control. Especially adaptable to sliding doors.

80, 101, 53, 62, 92 and 111-B—85 Window Regulator with straight-up lift—all have Plus Values.

Wherever service requirements are the most exacting—ratty roads, heavy loads, rough usage—you'll find Hansen. For "the Tougher the Service, the Better."

REQUEST NEW CATALOG *showing complete line of Hansen Hardware. Includes many new items.*

A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE.
CHICAGO 40, ILL.



...Truck and Bus Problems

Continued from Page 136

had all of the vehicles that have been involved in recent run-away accidents been equipped with all of the equipment which has been described that there would have been no accidents."

Four types of retarders, devices

which can supplement brakes in helping motor trucks to descend hills safely, were described at another symposium. The Thompson retarder was explained by J. H. Booth and E. J. Herbenar, of Thompson Products, Inc., as comprising a hydrokinetic power absorber, a modulating control and a heat exchanger. Using fluid as a working medium and located in the drive line, the device transfers to the vehicle cooling system

the energy absorbed through fluid friction and converted to heat.

E. F. Speiden, of Parkersburg Rig & Reel Co. Division, Parkersburg-Aetna Corp., described the Hydrotarder as a fluid friction device which absorbs the energy developed by a vehicle in descending a grade. He said the Hydrotarder can hold a vehicle of 82,000 lb gross weight to 8½ mph on a 6 per cent grade.

By installing a valve which closes the exhaust manifold, the engine of a truck can be made to function as an air compressor and exert a braking action, it was reported by W. E. Meyer, of The Pennsylvania State University. He said such retardation is limited by engine size and design without relation to vehicle weight and effectiveness consequently depends upon the ratio of horsepower to gross vehicle weight. Mr. Meyer added that the compression method of retardation has attributes of simplicity, of keeping the engine at operating temperature and of applying retarding torque ahead of the transmission so that various gear ratios may be employed.

While the friction brake still is best for slowing, stopping and holding, some means must be provided to dissipate the heat generated. That is the job of the retarder, according to J. G. Oetzel, of Warner Electric Brake & Clutch Co., who explained that a 45,000-lb vehicle will generate about 300 hp descending an 8 per cent grade at 45 mph. Mr. Oetzel recommended the use of eddy-current retarders which do not stop or hold vehicles, but help to dissipate as heat the generated horsepower.

END

Please Resume Reading Page 92

Commercial Car Salesman: "I literally detest the sight of liquor."

Brunette Babe: "But I've seen you drink many times."

Commercial Car Salesman: "Yes, but that was only to get it out of my sight."



**Accurate pressure
is a must to keep these
babies rolling!**

...and it cuts maintenance costs!

For dependable, safe and economical operation, you've got to have accurate tire pressure. Under or over inflation shortens tire life and raises fleet costs per mile. ECO Tireflators will give your fleet accurate desired pressure from 5 to 110 pounds. And ECO is economical. The initial cost is usually the last. Ask your John Wood Representative for details about ECO Remote Tireflators and ECO Islanders® for tire-saving control of inflation pressures.

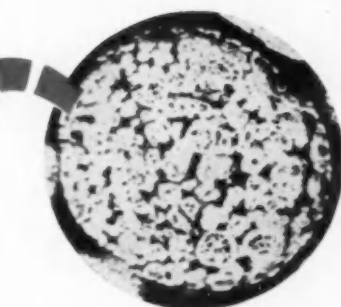
Model 98 ECO Tireflator.
Other models for mounting on wall, pillar
or post and with remote reel.



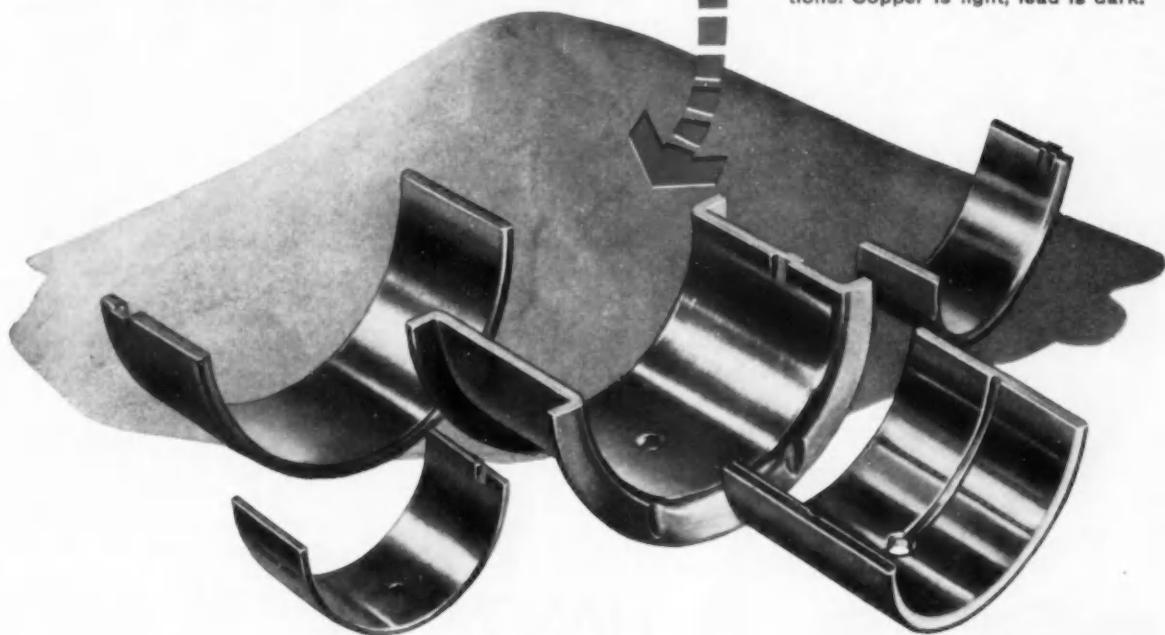
JOHN WOOD COMPANY

Bennett Pump Division, Muskegon, Michigan
In Canada: Toronto • Montreal • Winnipeg • Vancouver

Take a look at the Powder that makes the better Fm Sintered Copper- Lead Bearing



Each tiny granule is an alloy of copper and lead, in controlled proportions. Copper is light; lead is dark.



That pile of metal powder is the starting point for maximum heavy-duty engine bearing mileage, with Fm bearings.

Every speck of it is alike—a tiny grain of alloy of *controlled* copper-to-lead proportion! Billions of them are put together by sintering, on steel strip, to make our Fm *fleet-mileage* bearings. This tough, durable bearing lining is unmatched, *anywhere!*

Fm sintered copper-lead bearings produce maximum mileage in heavy-duty fleet operation.

They are examples of the service know-how that makes Federal-Mogul the first choice brand for bearing replacement. Nation-wide surveys of fleets show Fm bearings are preferred . . . by 2 to 1. Ask your jobber!

FEDERAL-MOGUL SERVICE

Division of Federal-Mogul-Bower Bearings, Inc.



Standards for Safety Supervisors

Continued from Page 79

ance company or its established division, specializing in commercial vehicle insurance coverage (6 points), and (2) Completion of a standard Motor Fleet Supervisor training course (4 points).

Supplementary Requirements. In addition to the 10 points for the

compulsory requirements, the applicant must complete his score of 14 points from among the following:

Formal training in personnel administration or psychology (2 points).

Completion of any of the follow-

ing standard courses as presented through the National Committee for Motor Fleet Supervisor Training (each course is worth 2 points): Efficient Terminal Management, Effective Fleet Operation, Trainer or Commercial Drivers.

"Grandfather" Clause. Those persons who are now employed, full-time, as Director of Safety in a commercial vehicle fleet or organization of commercial vehicle fleets, who have held this post for a period of three years or more, and who have within that period completed the standard Motor Fleet Supervisor course (either the standard 5-day course or both 3-day courses) may qualify for certification provided that this employment and experience took place before Aug. 1, 1956. (Note: The "Grandfather" clause for each certificate has been the subject of some discussion, may be subject to change.)

Fee for certification as Director of Safety is \$25.00.

Safety Supervisor

Applicants for the Motor Fleet Safety Supervisor certificate must obtain a rating of at least 14 points in the following:

Compulsory Requirements (total value 10 points). (1) Completion of the standard Motor Fleet Supervisor Course (5 points), and (2) At least two years experience in a position responsible for driver safety supervision, or driver selection and driver training (5 points).

Supplementary Requirements. In addition to the 10 points for the compulsory requirements, the applicant must complete his score of 14 points from among the following:

At least two years of college work with principal emphasis in: economics, transportation, safety education, traffic engineering, mechanical engineering, or industrial engineering (3 points).

Formal training in personnel administration or psychology (3 points).

Completion of any of the following standard courses as presented through the National Committee (TURN TO PAGE 144, PLEASE)



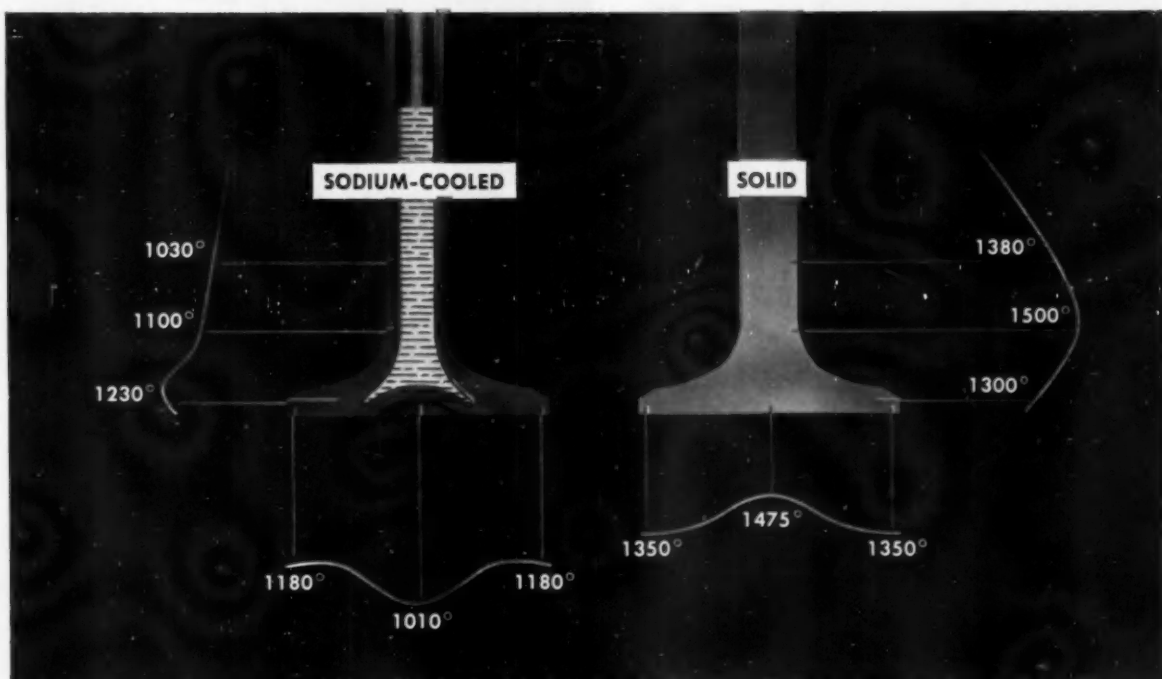
STOP
BURNING UP RUBBER!

USE A
HANDY
GOVERNOR

KS

KING-SEELEY CORPORATION
ANN ARBOR, MICHIGAN

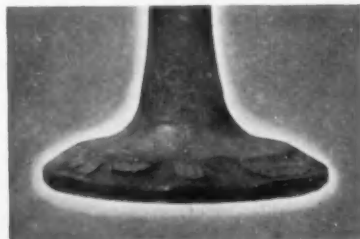
Eaton Sodium-Cooled Valves Run Cooler—



These curves show operating temperatures of Sodium-Cooled and Solid Valves under similar conditions of high output.



Eaton Sodium-Cooled Valve after 110,000 miles—still in good condition.



Conventional valve after 35,000 miles in same type of operation as Sodium-Cooled Valve shown above.

Cooler Valves Last Longer

Today's trend in engine design toward higher speeds and more economical fuel-air ratios results in higher temperatures for many operating parts—including exhaust valves. These higher temperatures sharply reduce valve resistance to corrosion and distortion, definitely limiting valve life. Eaton Sodium-Cooled Valves, operating at considerably lower temperatures, maintain corrosion resistance and strength.

In general, maintenance of Eaton Sodium-Cooled Valves in heavy-duty truck engines is scheduled only at time of major engine overhaul. No in-between trips to the shop are necessary for valve servicing. Engine output is maintained at high levels over long mileages. In many millions of miles of heavy-duty operation, Eaton Sodium-Cooled Valves have proven their ability to keep trucks on the road and out of the shop.

Eaton engineers will be glad to work with you in applying the benefits of Sodium-Cooled Valves to your engines.

EATON

VALVE DIVISION
MANUFACTURING COMPANY
9771 FRENCH ROAD • DETROIT 13, MICHIGAN



PRODUCTS: Sodium Cooled, Poppet, and Free Valves* Tappets* Hydraulic Valve Lifters* Valve Seat Inserts* Jet Engine Parts* Rotor Pumps* Motor Truck Axles* Permanent Mold Gray Iron Castings* Heater-Defroster Units* Snap Rings Springtites* Spring Washers* Cold Drawn Steel* Stampings* Leaf and Coil Springs* Dynamatic Drives, Brakes, Dynamometers

STAINLESS STEEL plus PROFIT-DESIGNED

STAINLESS STEEL plus PDQ produced the Fruehauf Stainless Volume★Van—lowest-cost Volume★Van in terms of increased profits, reduced operating costs, and extra years of service. It's the highest-capacity Trailer in the Volume★Van line, with 94' of useable cargo space out of 96' of legal outside width, and inside length only 44" less than over-all Trailer length.

STAINLESS STEEL plus PDQ produced a Trailer that is lightweight, corrosion-resistant, and practically indestructible. No Stainless Fruehauf has ever been reported "worn out."

STAINLESS STEEL plus PDQ produced a hauling unit that gives a lifetime of service, simplifies repairs,

and drastically reduces maintenance costs. You'll realize bonus years of profitable hauling long after the Trailer has paid for itself.

STAINLESS STEEL plus PDQ produced a top-volume unit that provides 35% more payload per trip than conventional 32' Trailers. You'll make highest possible profits on every Trailer load.

**FRUEHAUF
TRAILERS**

For complete information on the profit benefits the Fruehauf PDQ Stainless Volume★Van can provide for your operation, call your Fruehauf Branch collector or mail this coupon, today.



STAINLESS STEEL plus PDQ equals THE GREATEST PROFIT-EARNER ON THE ROAD

QUALITY equals

- LIFETIME DURABILITY
- TOP PAYLOADS AND PROFITS
- MINIMUM MAINTENANCE EXPENSE

P·D·Q gives you the extra benefits of modern, precision production processes resulting in unmatched Trailer quality. Further, every Fruehauf PDQ unit provides you with immediate delivery, fast parts availability, simplified maintenance, more efficient interchangeability of parts, higher trade-in value, easier interchange, and convenient Fruehauf Finance.

FRUEHAUF *STAINLESS*

Volume★Van

TODAY...FRUEHAUF'S STAINLESS VOLUME★VANI

• PDQ • PDQ • PDQ • PDQ • PDQ •
D World's Largest Builder of Truck-Trailers P
D FRUEHAUF TRAILER COMPANY D
Q 10941 Harper Avenue • Detroit 32, Michigan Q
• ✓ SEND COMPLETE INFORMATION ON THE •
P STAINLESS STEEL VOLUME★VAN PDQ! P
D ★ Just attach to your letterhead, sign, and mail. D
Q You'll get action PDQ! Q
• PDQ • PDQ • PDQ • PDQ • PDQ •

... Safety Supervisors

Continued from Page 140

for Motor Fleet Supervisor Training (each course is worth 2 points): Efficient Terminal Management, Effective Fleet Operation, Trainer or Commercial Drivers.

Vocational or trade school training in automotive mechanics (1 point).

"Grandfather" Clause. Those persons now employed full-time as Motor Fleet Safety Supervisors, who have been so employed for a period of two years or more and who have completed the standard Motor Fleet Supervisor course, may qualify for certification provided that such employment and experience took place prior to Aug. 1, 1956.

Fee for certification as Motor Fleet Safety Supervisor is \$15.00.



use only
**FACTORY NEW
GENUINE
BENDIX DRIVES
and
PARTS!**



Repeat business is the foundation on which service profits are built. One of the surest ways to keep customers coming back time and time again is to use only genuine parts in your repair work. When you service Bendix* Drives, be sure to use only *factory new* Bendix Drives and Parts. Your customers will get the same dependable performance built into every original Bendix Drive—performance proven by over 100,000,000 installations. Insist on *factory new* Bendix Drives and Parts when you order from your distributor.

*REG. U.S. PAT. OFF.

Bendix Drive

ECLIPSE MACHINE DIVISION of
ELMIRA, NEW YORK

Export Sales: Bendix International Division, 205 East 42nd St., New York 17, New York

Bendix
AVIATION CORPORATION

Driver Trainer

Applicants for certificate as a Trainer of Commercial Drivers must obtain a rating of at least 11 points in the following:

Compulsory Requirements: The applicant must have either of the following:

Three years experience as a driver of a commercial vehicle and completion of the standard course for Trainers of Commercial Drivers (5 points).

Or

One year experience as a driver of a commercial vehicle plus a 4-week specialized driving course such as that established at North Carolina State College (3 points).

Supplementary Requirements. The rest of the required 11 points are to be made up from among the following:

College of university training in the field of education, with particular emphasis on teaching and teaching methods (4 points).

One year of teaching experience in a public or private secondary school (4 points).

Formal training in personnel administration or psychology (2 points).

Twenty clock-hours of specialized teacher training by a college or university (3 points).

Vocational or trade school training in automotive mechanics (1 point).

"Grandfather" Clause. Those persons now employed, full-time, as Driver Trainers, who have been so employed for one year or more and who have completed the standard course for Trainers of Commercial Drivers, may qualify for certification provided that such employment and experience took place prior to Aug. 1, 1956.

Fee for certification as a Driver Trainer is \$10.00.

Handling Fees

Applications must be accompanied by a check or money order in the amount of the fee, payable to Committee on Certification and must also be accompanied by a self-addressed, stamped envelope which will be used to acknowledge receipt of the application and fee.

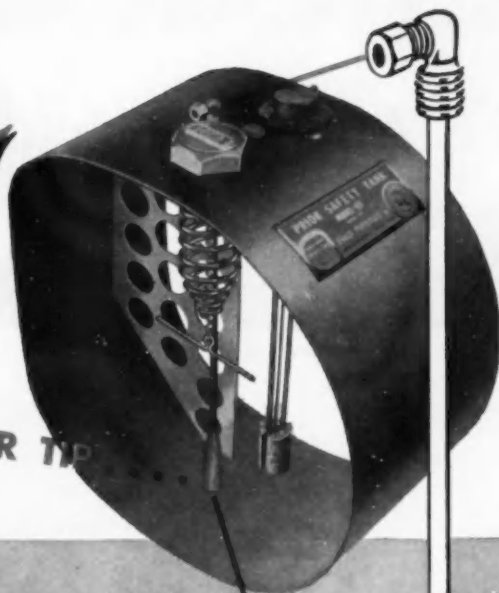
END

Please Resume Reading Page 80

Prior

IS FIRST AGAIN

WITH A SPECIAL MONEL FILTER TIP



This is the same type of filter used by leading truck manufacturers in their tanks who have completely eliminated the need for filters in the fuel lines.

BUILT-IN PROTECTION... the kind of worry-free protection that prevents any foreign deposits from entering the fuel line... this is the kind of protection you can rely on with this new filter that stops harmful deposits at the mouth of the pick-up line.

One of the biggest advancements for safety in the safety tank industry in many years, this new filter is now standard equipment on all Prior Safety Gasoline Tanks at no extra cost. The new filter-tip removable fuel supply line can be easily installed in *any* Prior Safety Tank.

See your distributor or write direct to

PRIOR PRODUCTS, INC.

P. O. BOX 349

P. O. BOX 7608

MIDDLETOWN, OHIO

DALLAS, TEXAS

**MONEL
FILTER
TIP**



Fleet after fleet told us what they needed . . .

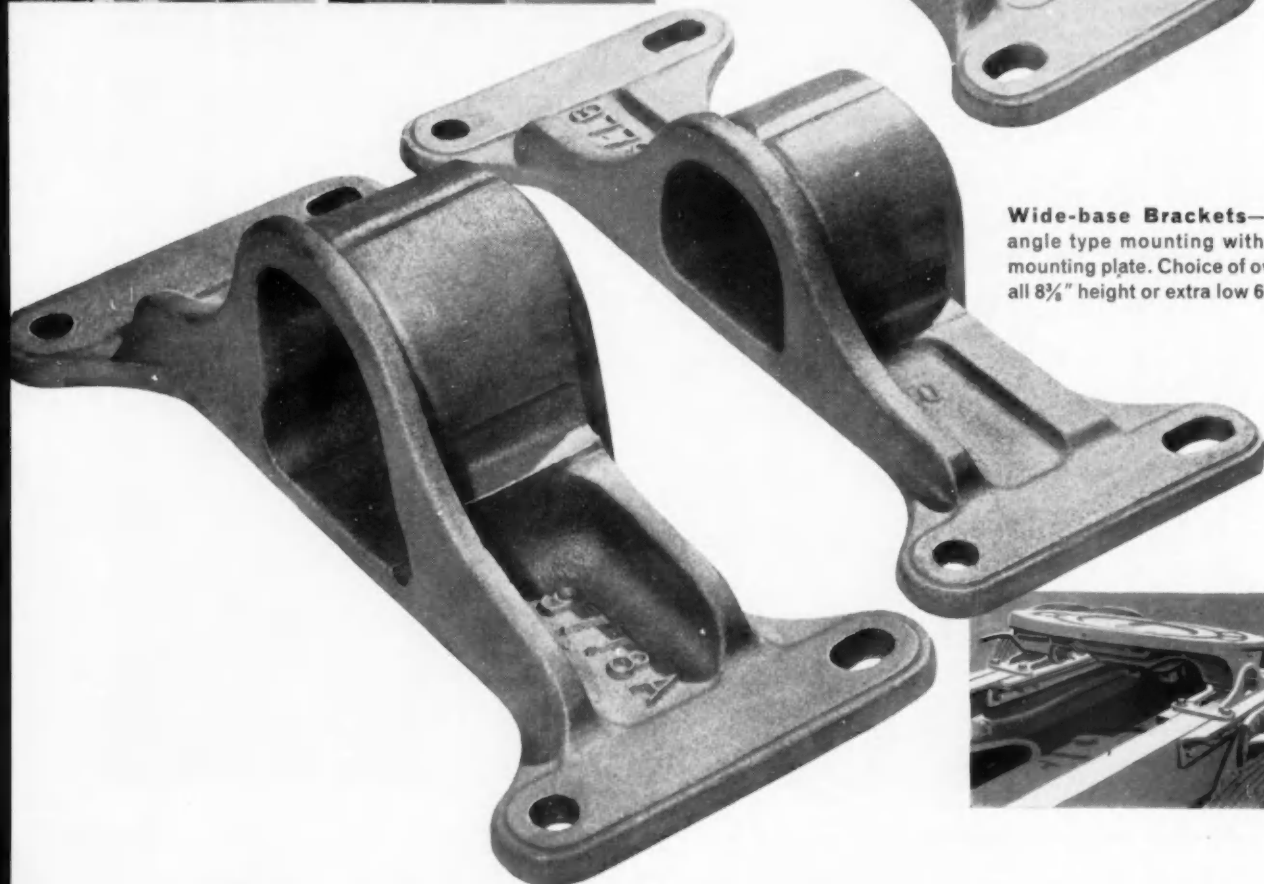
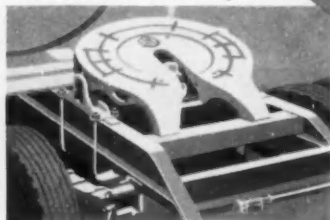
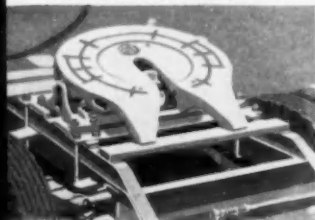
Which one of these 5 ASF brackets



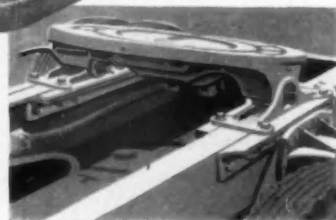
Standard Bracket—For installation with or without mounting plate. Over-all height $8\frac{3}{8}$ ". Shipped unless otherwise specified.

ASF Wheel mounted with a plate

ASF Wheel mounted without a plate

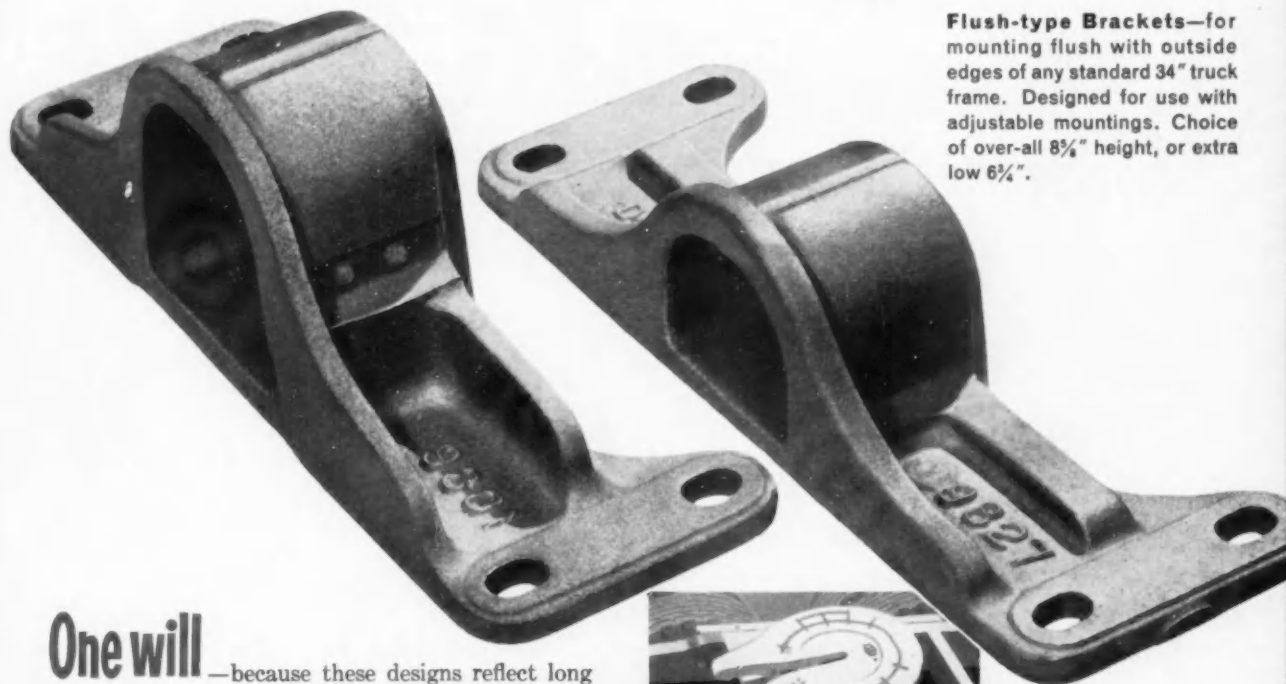


Wide-base Brackets—for angle type mounting without mounting plate. Choice of over-all $8\frac{3}{8}$ " height or extra low $6\frac{1}{4}$ ".



and what they needed, they got!

will solve **YOUR** mounting problems?



Flush-type Brackets—for mounting flush with outside edges of any standard 34" truck frame. Designed for use with adjustable mountings. Choice of over-all 8 $\frac{1}{4}$ " height, or extra low 6 $\frac{3}{4}$ ".

One will

—because these designs reflect long field work with truckers on all of the common mounting methods. We wanted to furnish a choice of brackets that would simplify mounting problems and reduce truckers' costs . . . and these are the brackets that truckers themselves helped design.

Today—when you order ASF Safety 5th Wheels—it costs you nothing extra to specify the bracket that meets your requirements:

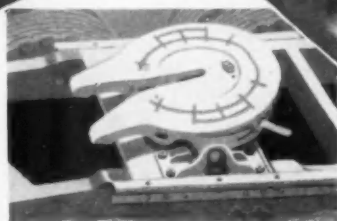
Flush Type—High or Low

Wide-Base Type—High or Low

Standard—(furnished unless otherwise specified)

Other than differences in shape, these brackets all have the same big trunnion bearing area that eliminates pin problems. And, of course, the ASF Wheels are the same—with the same safety features, same dependable lock, same rugged construction that has rolled up unmatched records of operating economy.

Ask your nearest ASF Distributor for proof—or write American Steel Foundries, Hammond Division, Hohman Ave. and Hoffman St., Hammond, Ind.



Make an investment in safety . . . with

ASF safety 5th wheels



New Product Descriptions

Continued from Page 86

blade support rests against the material being sawed and only the blade moves back and forth through the cut.

P25. Radiator Guard

Bustin Steel Products, Inc., Dover, N. J., announces a new heavy-duty,

light-weight, brush guard designed to fit all standard makes and models of heavy-duty trucks and truck-tractors. It is constructed in three pieces consisting of two durable channel-iron uprights to which is bolted a correspondingly sturdy horizontal cross plate. Cross plates are available in 30, 36, 42 and 46-in. lengths. If de-

sired, the upright members can be supplied separately for users who desire to furnish their own cross plates. The assembly has been especially developed to provide protection to radiator grilles which are flush with or project beyond the bumper.

P26. Impact Wrench

Thor Power Tool Co., Aurora, Ill., announces its Model No. G2W air-impacted wrench. The new ½-in., square-drive reversible tool has



only four moving parts—impact spindle, impact jaw, hammer and drive shaft—in its mechanism. Impact mechanism runs at rotor speed and delivers a blow for each revolution of the rotor—approximately 1300 blows per minute. Torque and speed of the wrench are controlled by a convenient air regulator located in the handle. The tool can be switched from forward to reverse by pressing a button in the trigger handle. It operates on a standard air pressure of 90 lb and average air consumption is 3 cfm.

DO YOU LOOK FOR Universal Joint Trouble?

It's Profitable Business!

Next time you're under a car, check the Universal Joints! You'll be surprised how many need replacing. Saves road failure . . . eliminates noisy operation . . . **MAKES MONEY FOR YOU.**



You'll be in business without spending a fortune . . .
You'll make the sale on the spot . . .

If you have NEAPCO'S 6 UNIT ASSORTMENT

All hot items . . . no slow movers . . . will service 70% of your calls. More money in the till . . . more happy customers. Ask your Neapco Jobber.

Neapco Products Inc., Pottstown, Pa., a basic manufacturer to the automotive industry for 35 years.



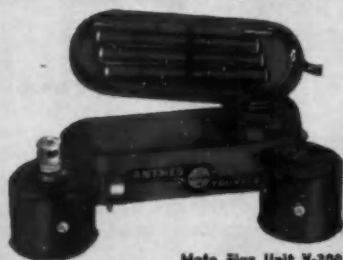
P27. Hose Reel

The William Turk Co., Lynwood, Cal., has announced an addition to (TURN TO PAGE 150, PLEASE)

Truck Engine Mixes Concrete



Pacific Coast Aggregates has just added 25 6-wheel International Model No. FC-402-L COE trucks to its fleet. Featured is a front-mounted power take-off for driving the mixer.



Moto Flar Unit V-300

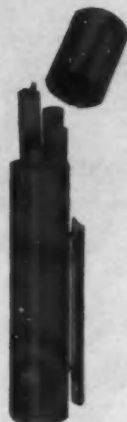


Foco Flar Unit FFB-33



Foco Flar FP-1

The popular Anthes oil flare grew up with the trucking industry. Today a complete line of Anthes OIL, ELECTRIC and REFLECTOR FLARES fills all requirements, dependably.



Fosco Case Unit S-423



Foco Flar Unit FF-3



Moto Flar V-1



Lektro Flar Unit LB-332

Truck Flar CS-32



Moto Flar V-3



THE FIRST LINE OF SAFETY

Anthes



UNIT



REFLECTOR



FLAG FLARE



FOCO FLAR



MOTO



TRUCK FLAR

ANTHES FORCE OILER COMPANY • FORT MADISON, IOWA



AIR COMPRESSORS

give your servicing facilities
a most dependable supply
of compressed air



Service managers and garage operators are finding that Ingersoll-Rand Type 30 Compressors perform so reliably that little attention is required—time saved for customer servicing!

These rugged air compressors are built to give you more air-per-horsepower. And, they are always ready to meet maximum air demands on the job.

When you check their exclusive design features—like the outstanding *Balanced V Construction*—you know why so many shops say they're the "best buy of all for efficiency and value!" Get latest details from your nearest I-R jobber or write to:

Ingersoll-Rand

3-350 11 Broadway, New York 4, N. Y.

New Products

Continued from Page 148

their line of hose reels. It's a new heavy duty open type reel designed especially for extra long lengths of hose. These new reels are available with 75 ft of $\frac{1}{4}$ or $\frac{3}{8}$ -in. hose, 60 ft of $\frac{1}{2}$ -in. hose or 25 ft of $\frac{3}{4}$ -in. hose. It is a spring actuated hose reel. Ratchet holds hose at any desired length. All have oil impregnated bearings and O-ring sealed swing joint. They are fabricated from heavy gage steel.

P28. Timing Lights

Allen Electric and Equipment Co., Kalamazoo, Mich., is offering four new timing light models. The deluxe timing light, "Powr-Timer," auto-



matically operates on 6 or 12-volt ignition systems, has a pistol grip. The "Mighti-Mite" timing light, shown here, operates on battery or magneto-type 6, 12 or 24-volt ignition systems.

P29. Vacuum Switch

Rochester Mfg. Co., Rochester, N. Y., has put into production a new heavy-duty type vacuum switch. (TURN TO PAGE 153, PLEASE)

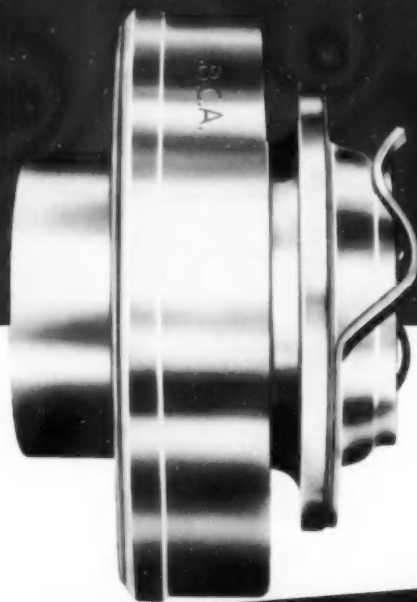
There Are 99 More



Maine, the Pine Tree state, is being boosted by 100 rolling billboards like the one above. They all belong to Cole's Express, Presque Isle, Me. The state's Dept. of Development of Industry and Commerce provided the design, Cole paid for the entire painting job.

BCA CLUTCH BEARINGS

give up to **3 TIMES** "expected" life!



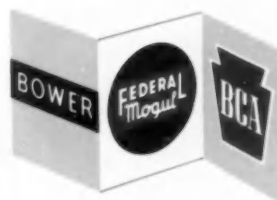
Tests prove it!

Automotive engineers expect clutch bearings to be good for 70,000 to 80,000 declutchings. Tests prove that BCA clutch bearings are good for more than 200,000 declutchings at speeds corresponding to 50 to 60 miles per hour!

Leading fleet superintendents specify BCA bearings. There's good reason why. BCA bearings stand up longer in the clutch!

- ▶ BCA clutch bearings are specifically designed for automotive service. They are made to original equipment specifications.
- ▶ Precision high-carbon chrome balls, precision-ground carburized steel washers, and unique carrier assembly form a perfectly balanced design that assures correct running and smoother operation at all speeds.
- ▶ There's no need for relubrication. The bearing is filled with a highly refined lubricant that remains stable at high temperatures. Ample lubricant space provides a more than adequate reservoir. Lubricant is accurately metered to each bearing.
- ▶ Special bronze ferrule minimizes friction and wear on the carrier nose.

Next time, put in BCA "Triple-Life" Clutch Bearings. It pays.



Federal-Mogul Service

(Division of Federal-Mogul-Bower Bearings, Inc.)
DETROIT 13, MICHIGAN

Get the bearings you need **WHEN** you need them.
Call your Federal-Mogul Service jobber.

BOWER ROLLER BEARINGS

the Louisville "standard"...

Proved by tests!

"The Louisville Transit Company operates 400 buses in Louisville and Frankfort, Kentucky. Based upon comparative tests, we decided many years ago to standardize on Bower roller bearings for our fleet. Twelve years of actual service records have proved the high quality of Bower roller bearings, and the fact that we can always rely on the dependable service behind them."

Torrens A. Smith

TORRENS A. SMITH
SUPT. OF EQUIPMENT
LOUISVILLE TRANSIT CO.

FOR THE LAST 12 YEARS



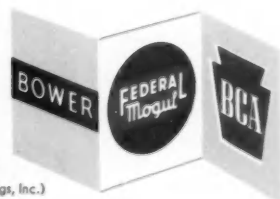
In service like that of Louisville Transit Company, Bower roller bearings prove their outstanding quality and design perfection.

Bower tapered roller bearings are "Spher-O-Honed"—with spherical roll-head and flange surfaces . . . liberal oil groove . . . and durable races honed to micro-inch smoothness. "Spher-O-Honing" means less friction, cooler operation, longer wear.

Bower straight roller bearings have the exclusive "double lip" design which permits them to carry light intermittent thrust loads in addition to supporting radial loads.

Bower journal bearings—designed for small radial loads or where space is limited—are built to the same high standards of precision.

It pays to specify Bower—for the best in roller bearings and bearing service.



Federal-Mogul Service
(Division of Federal-Mogul-Bower Bearings, Inc.)
DETROIT 13, MICHIGAN

Get the bearings you need WHEN you need them. Call your Federal-Mogul Service jobber.

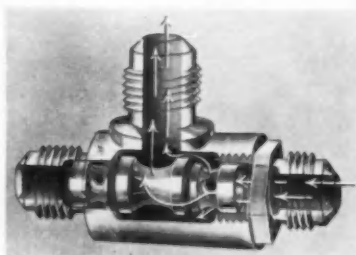
New Products

Continued from Page 150

Housed in a hermetically sealed dust-proof steel case, the vacuum switch features a spring loaded diaphragm, Buna-N-impregnated, protected against heavy vibration, pulsation and shock. Available for normal open or normal closed use at zero vacuum with settings up to 22 in., they are for use with 6, 12 or 24 volt DC.

P30. Fuel Tank Selector

New Products Corp., Skokie, Ill., has developed a new selector valve for use in vehicles that have two or more fuel tanks. Valve operates auto-



matically by pressure from electric fuel pump in or near each tank. Placed in the fuel line between tanks, the new valve requires no manual operation by the driver. It automatically shuts off the line of the empty tank, while continuing to draw from the other tank, without interrupting engine operation. Being a selector valve, rather than a check valve, there is no pressure drop and the line remains open.



"Every time the wife packs one of these pies in my lunch, I have a terrific urge to tell the boss I quit!"

P31. LP-Gas Adapter

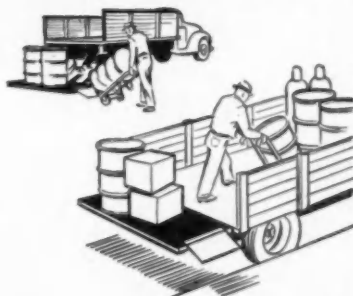
American Liquid Gas Corp., Los Angeles, Cal., has a new adapter-mixer for use in making LP-gas conversions. Total installation height including the idle plate is only $\frac{3}{8}$ in. It permits use of factory engineered carburetion when gasoline operation of the engine is required. It consists of a venturi-type airhorn adapter and idle adapter plates to fit standard gasoline carburetors. It is designed for use on smaller applications up to 400-cu in. displacement.

P32. Fuel Hose Retractors

The Aro Equipment Corp., Bryan, Ohio, has a new-type gasoline hose retractor, Model No. 640-076 for installation on gasoline pumps. This retractor is designed to prevent excess slack in the hose during its use, thereby eliminating needless wear that results when hose is permitted to drag on the ground.

The retractor assembly is furnished with 9 ft of nylon covered steel cable and a nylon grommet; a hose clamp (TURN TO PAGE 156, PLEASE)

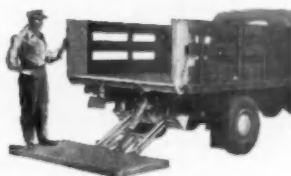
Here's trucking **AUTOMATION** that lets you combat High Cost Hauling



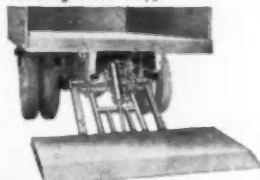
Cost saving way to handle heavy packaged goods such as barrels, cylinders, carboys, crates, etc. One man with a hand truck can handle any loading or unloading operation at big savings of time.

ANTHONY LIFT GATES

FOR $\frac{3}{4}$ TON and Larger Trucks and Semi-Trailers



Model No. 144 handles loads up to 1000 lbs. Cuts loading and unloading time 50%.



Model No. 145 handles up to 2000 lbs. on $1\frac{1}{2}$ -Ton and larger trucks and semi-trailers.

Model No. 146 handles up to 4000 lbs. on heavy trucks and semi-trailers.

If high freight rates and costly delivery services are cutting a swath out of your profit picture, here are five ways you can offset them.

1. Speed up deliveries.
2. Develop faster, easier ways of loading and unloading trucks.
3. Systematize handling of bulky, awkward, heavy shipments.
4. Prevent damage to goods, yet make it easier and safer for drivers to handle most shipments alone.
5. Help drivers contribute to the satisfaction of the receiver.

All of these advantages are yours when you install Lift Gates on your trucks. We will be glad to recommend the systems, the size and type of Gate best suited for your work.

Write, wire or call us today—no obligation. One of our representatives is nearby. Dept. 5651.



ANTHONY COMPANY
Streator, Illinois

DIAMOND T



Newest Diamond T sensation—the Tilt-Cab Turbo-Supercharged Diesel Model 723CJT. To its 175 diesel horsepower this newest highway tractor adds major advantages of load space and light weight. Even with sleeper cab it takes 35-foot trailers in 45-foot limit states, and rear chassis weight is less than 3600 lbs., including fifth wheel, ready for the road. Check your own loads and legal limits to see what it can do for you. Remember that fuel savings alone often run upwards of 2¢ a mile.



"Best road performing, most economical trucks I've owned"

SAYS MR. L. R. WATTENBARGER



"And my drivers back me up. They've all driven other makes and they say Diamond T is the best riding, best handling. Friends I have recommended Diamond T's to are also happy with them."

L. R. WATTENBARGER OIL CO.
FORT WORTH, TEXAS

J. R. Wattenbarger



Your name on the horn button of your Diamond T means "custom-built" production to your specific needs. Your truck is actually built for you — to do your job best.

MR. WATTENBARGER is right. Diamond T Model 662 is not only a stand-out for performance and economy. It is equally a favorite with drivers because they are fresh and unwearied at the end of the run.

Shop around. Compare specifications, compare performance—and price. Model 662 is built for a long life of hard service, with 174 truck horse-power under the hood. A wide range of transmission and

axle options allows you to specify the combination that is exactly right for your loads and routes.

Talk it over with your Diamond T dealer. He can match your needs with exactly the right model and type for your particular service, including Tilt-Cab models, Turbo-charged diesels and six-wheelers in a wide range of size and power. See your dealer or write Diamond T Motor Car Company, Chicago 23, Illinois.

DIAMOND T TRUCKS



*The Diamond
is for Quality*

New Products

Continued from Page 153

assembly and hose clamp boot are available as accessories.

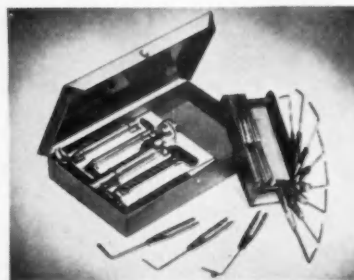
P33. Brake Block

Grey-Rock Division, Raybestos-Manhattan, Inc., Manheim, Pa., has just announced the addition of a new woven brake block, known as the "H" block. These will be available in ¾-

in. thick block sets or in combinations of tapered blocks. The blocks are made from long fiber, wire inserted asbestos yarns, completely impregnated, woven and compressed.

P34. Truck Mufflers

The AP Parts Corp., Toledo, Ohio, announces five new aluminized-steel straight-through mufflers to fit 90 per cent of all heavy duty trucks (including diesels). Sound is controlled by a series of four specially designed resonating chambers.



P35. Tool and Gage Kit

Allen Electric and Equipment Co., Kalamazoo, Mich., announces a tool and gage kit designed especially for servicing distributors, regulators and spark plugs. The kit contains 21 wire gages from .007 to .095 with spring lock handles for quick removal and replacement; a distributor point aligning tool; end wrench for adjusting vacuum controlled advance on Ford distributors; spring tension adjusting tools for regulators; wrench for adjustment of cam angle on external adjustment type distributors.

P36. Battery Cell Tester

Burton-Rogers Co., Cambridge, Mass., offers its "Hoyt" prod-type cell tester, Model No. CT-210, for quick, easy and accurate tests of 6- and 12-volt batteries. The cell tester consists of an easy-grip handle, two sharp steel prods, and a "HOYT" moving-coil voltmeter accurate to 2 per cent.

END

Please Resume Reading Page 88

'Taint Nothin', It's Empty



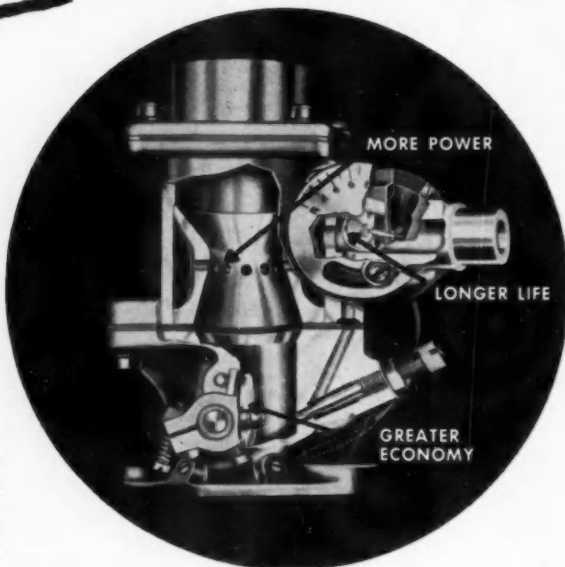
When Edwin Welch House Moving Co., Wray, Colo., moved this 100-ton, 70-ft high grain elevator from Amherst, Colo., to a farm four miles away, the only reported mishap was a blowout. Secret of the move: The tower has no grain in it.

Inside! WHERE IT'S IMPORTANT

ALGAS

Equipment Is Engineered For Peak Performance

This means better performance and greater economy under all conditions. Look at the inside construction of any ALGAS equipment and see the difference.



That's Why It Pays To Use or Specify ALGAS For Every LP-Gas Carburetion Need



Specifically engineered to meet the most exacting standards, ALGAS brings you the best in LP-Gas carburetion. Inside where performance is determined, ALGAS carburetors are engineered with a built-in economizer that is controlled by engine demand, thereby assuring the proper mixture and amount of fuel at all times... under all conditions. ALGAS equipment is designed for maximum power. It is built right so maintenance costs are negligible and economy of operation is paramount. Whether you use or buy, ALGAS is the brand to specify.

Write today for complete information on the ALGAS line.

AMERICAN LIQUID GAS CORPORATION

1109 Santa Fe Avenue • Los Angeles 21, California



Nitric acid contamination tends to decompose formic acid. But, because cleaning is so easy and thorough, P. B. Mutrie Motor Transport, Inc., uses this M. C. 311, Type 316 stainless steel tanker to carry both chemicals. The same tank trailer often hauls phosphoric acid, or forms of sulfuric acid and caustic soda.

"Stainless steel trailers give us fleet flexibility impossible with other tanks"

... says **EDWARD J. SMITH**, Superintendent of Equipment, P. B. Mutrie Motor Transport, Inc., Waltham, Mass.

"Ease of cleaning and utility make our stainless steel tank trailers more versatile than any others we use. We know. We've been using Type 302, 304 and 316 stainless steel tank trailers for more than 20 years.

"Our tankers haul more than 400 types and classifications of chemicals on a regular basis. That's why it's important that we be able to bring a truck off an acid haul, wash it up, and shift it to phenol or another chemical. This we can do with stainless steel.

"There are other advantages too. By using stainless steel we achieve positive corrosion resistance, prevent contamination, prolong tank life, reduce maintenance, cut off-the-

road time, get more usable miles, gain shipper acceptance, and have attractive highway advertising.

"We employ stainless steel in all cases where special cargo is a factor. *All new tanks we are ordering and have been ordering are stainless steel.*"

Get versatility

Whether you haul chemicals, edibles or petroleum products, stainless tankers can add extra versatility to your fleet. Producers of tank trailers made of Armco Stainless Steels will recommend the stainless grades that will best handle your cargoes. For their names, write us at the address below.

ARMCO STEEL CORPORATION

1796 CURTIS STREET, MIDDLETOWN, OHIO



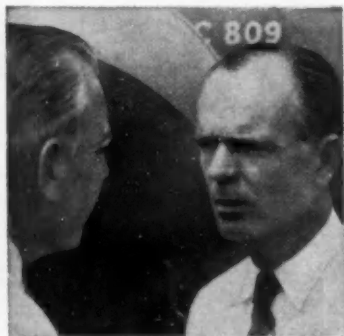
SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

COMMERCIAL CAR JOURNAL, July, 1956

157



Mr. T. J. Legare (above, left), Terminal Manager of the Anchor Motor Freight Corp. of Framingham, Mass., chats about maintenance with Curtis S. Collins, Gulf Sales Representative.



"I wanted one fine grease to do everything—and I found Gulflex 'A!'"

"I was sick and tired of cluttering up the place with grease cans," says Mr. T. J. Legare of Anchor Motor Freight. "So, when I heard about Gulflex 'A' I decided to try it. I wanted one fine grease to do *everything*."

"I found it all right. And it's the best—*without question!* This Gulflex 'A' saves on space. It reduces waste and reduces lubrication costs. It saves on equipment and most important of all it saves *time*. And that's a really big thing in our business, believe me!"

Some outstanding features

Gulflex "A," the multi-purpose LITHIUM BASE lubricant, is ideal for chassis, water pump, springs, universal joints and wheel bearings. It resists the action of water and delivers outstanding performance at both high and low temperatures.

Write on your letterhead for literature on this exceptional product, or phone your nearest Gulf office (it's in the phone book) and ask to have a Gulf Sales Representative call.

The finest petroleum products for your every need
GULF OIL CORPORATION • GULF REFINING COMPANY
 1822 Gulf Building, Pittsburgh 30, Pa.



New **GLOBE** dry-charged makes battery stocking a breeze



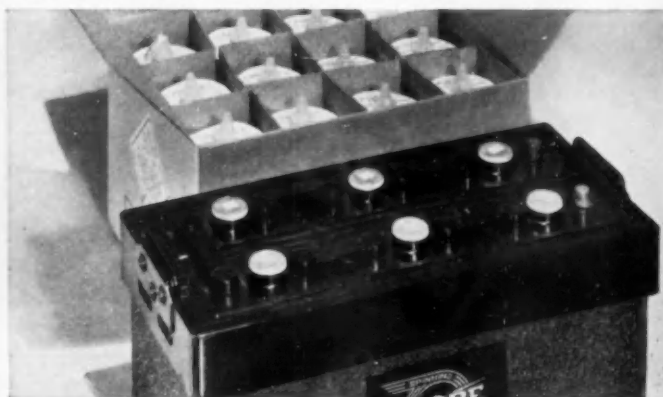
ALL-IN-ONE PACKAGING promotes efficiency, simplifies stocking. Everything needed — battery, electrolyte and pouring holder — is contained in this single, compact carton. It gives you much simpler inventory control.



NOW YOU CAN CARRY A COMPLETE INVENTORY, meet the needs of every vehicle in your fleet. There's no standing loss, no annoying need for trickle charge. Globe dry-charged batteries protect your investment because they're fresh until used.



SAFE AND ECONOMICAL TO SHIP AND HANDLE. Safe sturdy plastic bottle has great resistance to shock or impact. Cardboard bottle holder assures positive grip. *Economical* — 15 plastic bottles weigh less than one glass bottle, cost less to ship, take less time to handle. Disposable bottles eliminate returns. No money tied up in returnable or carboy inventory.



FOR ADDED CONVENIENCE WITH LARGER-SIZED BATTERIES and to comply with ICC regulations, certain batteries and electrolyte are shipped in separate cartons. Spinning Power electrolyte is packaged in plastic bottles offering the same benefits as those shown previously. Exact specific gravity and acid purity are assured through Globe's quality controls.

Get Fast, Low-Cost Delivery, Too!

Thirteen of Globe's 16 battery plants,* below, are equipped for dry-charged battery and Spinning Power electrolyte production. Their strategic locations put approximately 40% of the automotive market within a 50¢ per cwt truck load freight zone. For all your battery and electrolyte needs, call on Globe to be sure of top-notch sales and performance.

GLOBE-UNION INC.

MILWAUKEE 1, WISCONSIN

Battery plants at: *HOUSTON, TEXAS *MEMPHIS, TENNESSEE *ATLANTA, GEORGIA *DALLAS, TEXAS *MEDFORD, MASSACHUSETTS *MILWAUKEE, WISCONSIN *MINERAL RIDGE, OHIO *PHILADELPHIA, PENNSYLVANIA *EMPORIA, KANSAS *REIDSVILLE, N. CAROLINA *SAN JOSE, CALIFORNIA *LOUISVILLE, KENTUCKY *HASTINGS-ON-HUDSON, NEW YORK—LOS ANGELES, CALIFORNIA—OREGON CITY, OREGON—AJAX, (ONTARIO) CANADA

If it's Petroleum-powered there's a *GLOBE-BUILT BATTERY* right from the start!



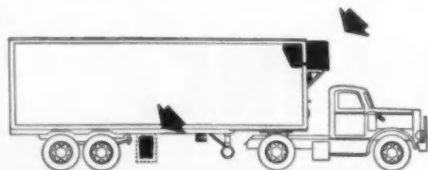
**TRUCK-
TRAILER
REFRIGERATION**

TROPIC-AIRE **Carrier**

A compact, lightweight mechanical unit that affords low-cost refrigeration or heating for the transport of perishable goods, frozen foods, dairy and meat products under any climate condition.

All the facts, mister...

The whole story about the most reliable of all trailer refrigeration equipment . . . Tropic-Aire—Carrier. *All* the facts in a new 6-page catalog. *Write, call or wire for your copy . . . NOW.*



EITHER FRONT OR UNDERSLUNG MOUNTING.

TROPIC-AIRE, INC., 5201 W. 65th Street, Chicago 38, Illinois
Tropic-Aire, Inc. is a subsidiary of McGraw Electric Co., Chicago



BLACK & DECKER Valve Guide Cleaners resist wear after 50 hours' continuous operation...

in actual "on-the-job" test!



Big Three in Plastic Pouch—you save when you buy the three most popular sizes . . . $\frac{5}{16}$ " , $\frac{11}{32}$ " , and $\frac{3}{8}$ " . . . in the handy plastic pouch.

Made with Dupont "Tynex"
(R) Nylon Bristles!
(won't scratch or load up!)

Tough-bristled Black & Decker Valve Guide Cleaners reduce time lost in cleaning chores. Remove carbon and other deposits faster and more thoroughly. Clean guides with or without oil grooves.

The durable nylon bristles retain their cleaning power over a long period of use. Never mar or scratch guide surfaces. Black & Decker Valve Guide Cleaners can also be used for cleaning screw threads and other hard-to-reach surfaces. 10 sizes are available . . . all designed to speed up your work and save you time.

See your Black & Decker distributor for a free demonstration or write: THE BLACK & DECKER MFG. CO., Dept. 3907, Towson 4, Maryland.

Look in the Yellow Pages under "Tools-Electric" for Nearest Distributor

Black & Decker®

World's Largest Manufacturer of Portable Electric Tools



Full $3\frac{1}{2}$ inch
brushing length

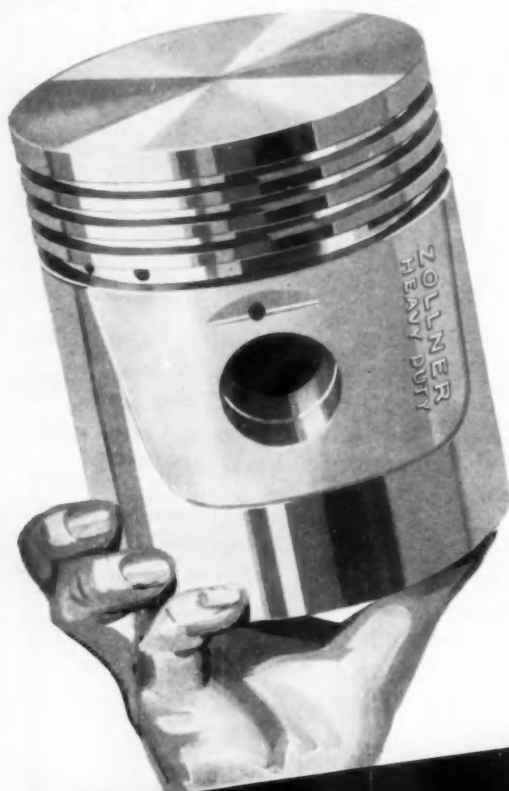


Fleet Owners' Choice

FIRST

**FOR ENGINE PERFORMANCE
AND LOW COST MAINTENANCE**

Experience proves dependability — and the experience records of fleet owners, everywhere, are the basis of Zollner Piston popularity. Today, as for many years, Zollner Pistons are the dominant choice of most engine builders and most fleet operators. For replacement as well as original equipment, Zollner Pistons are specifically tailored to individual engine requirements. You can always be sure of highest engine performance and lowest maintenance cost when you specify Zollner for every piston job.



Over **70%** of all Truck and Bus Manufacturers use and recommend **ZOLLNER PISTONS**

ZOLLNER

HEAVY DUTY PISTONS *by*

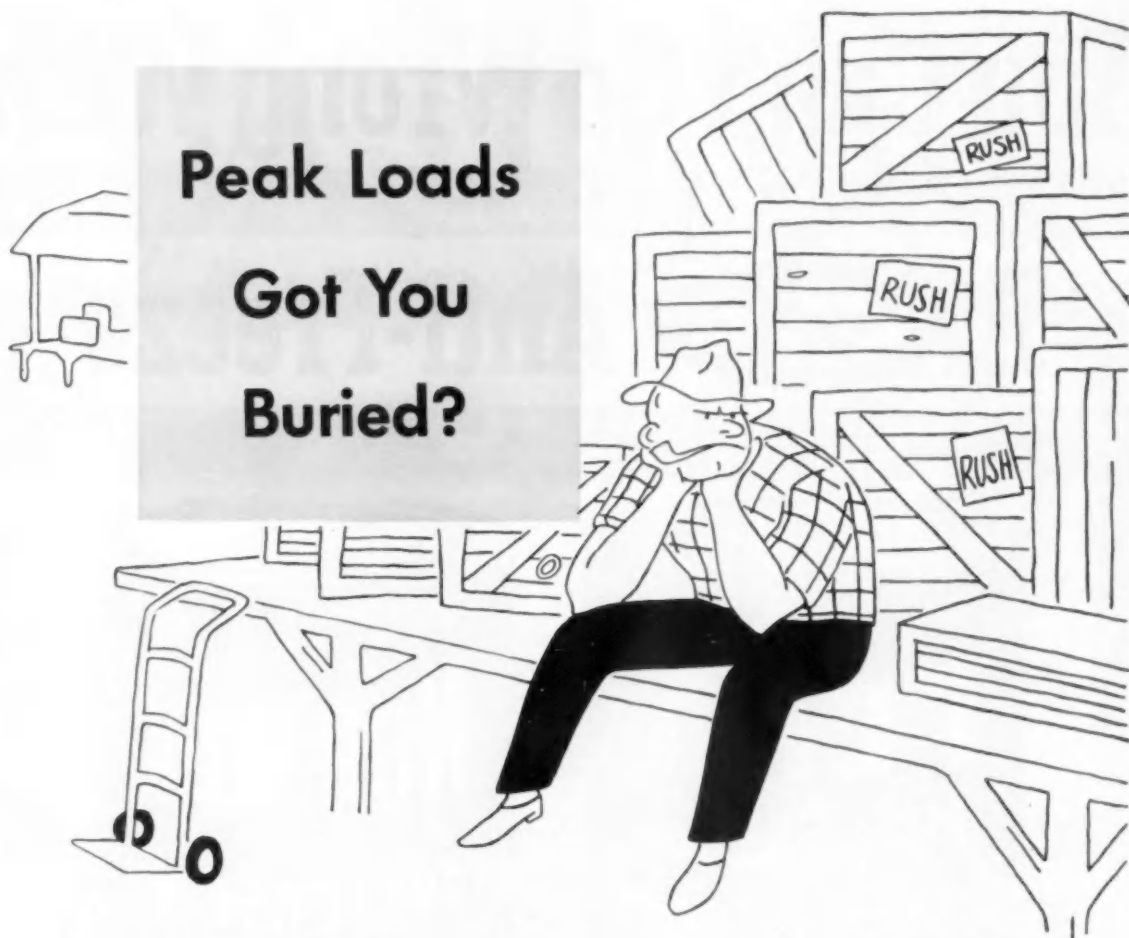
PISTONS

ZOLLNER

FOR RECONDITIONING ALWAYS SPECIFY THE "ENGINEER APPROVED" PISTON

ZOLLNER • FORT WAYNE, INDIANA

**Peak Loads
Got You
Buried?**



Call **HERTZ**... For That Extra Truck!

What a spot! One truck short at the busiest time of the year. Just so many trucks in the garage—and one more truck is all you need to keep your deliveries moving—right now!

You can have it! That extra truck is as close as your nearest Hertz Truck Rental office.

More and more businesses every day are meeting emergencies like this with a quick call to Hertz. Right away, they have a truck meeting their specifications.

It takes only minutes. Hertz Truck Rental does away with red tape. Just

order the truck you need—a modern Chevrolet or other sturdy make—in $\frac{1}{2}$ -ton, 1- and 2-ton capacities in pick-up, panel, van or stake body. Then send over your driver, with proper driver's license and identification, and the truck is yours.

The driver is the only thing you provide. The low Hertz rate includes everything else—gasoline, oil and proper insurance, at no extra charge.

For instance, in Houston, Texas, the rate for a 12 ft. van truck is \$8.75 for 12 hours plus 8 cents a mile, or \$11.15

for a 30-mile trip. Hertz' low rates vary slightly in different cities, and they are even lower by the week or on long term lease.

If you need one truck or a dozen, if you need it for a day or a week, call Hertz Truck Rental throughout the United States and Canada. You'll have your truck, right away.

For full information, call your local Hertz Truck Rental office. It's listed under "H" in the phone book. Or write, wire or call Hertz Truck Rental, 218 South Wabash Avenue, Chicago 4, Ill.



Most experienced...by far

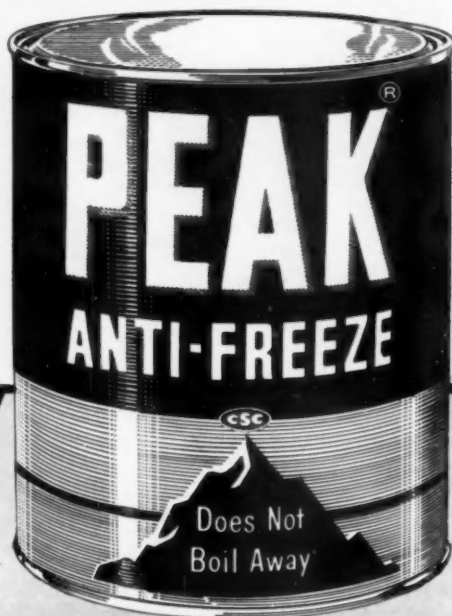
HERTZ

Truck rental

You Can't Go Wrong With



A **CSC** Anti-Freeze



**HERE'S THE BEST WINTER PROTECTION YOU CAN BUY
FOR ANY TYPE COMMERCIAL VEHICLE ON THE ROAD!**

PEAK® ANTI-FREEZE

- Non-evaporating "permanent-type"
- Provides unsurpassed all-winter freeze protection
- Exclusive rust inhibitor combination provides better rust protection than any other national brand
- Exceeds the requirements of all states that have anti-freeze licensing laws
- A single-phase product that can be pre-mixed to save downtime
- Won't foam, transfers heat efficiently, and will not leak from a water-tight cooling system
- It's Guaranteed

No wonder truckers and fleets have preferred PEAK and NOR'WAY for years! They choose PEAK for heavy-duty operations . . . and NOR'WAY for dependable, low-cost protection. Both types, incidentally, can

NOR'WAY® ANTI-FREEZE

- Low-cost, high-strength type made from methanol — the strongest, most efficient anti-freeze material known
- No better freeze protection at any price
- Protects all cooling system metals against corrosion
- Long-lasting, requires only a minimum of checking
- Can be used satisfactorily in vehicles equipped with medium or low temperature thermostats
- Will not boil away at normal engine temperatures
- Will not leak from a water-tight cooling system

be tested on modern anti-freeze hydrometers. If you haven't already ordered, contact your PEAK and NOR'WAY supplier now so you'll be ready to give your vehicles the best protection on the road this Winter!

COMMERCIAL SOLVENTS CORPORATION, 260 MADISON AVE., NEW YORK 16, N. Y.



TDA[®] BRAKES

if it moves...we can stop it!

equal forward and reverse torque output

Both shoes are applied evenly with equal force and stopping action through a single, straight bore wheel cylinder.

only 8 different parts,

exclusive of wheel cylinder, the superior "DH" brake design reduces parts inventory and simplifies maintenance . . . actually 40% fewer parts than most competitive designs.



"DH" DUPLEX HYDRAULIC BALANCED BRAKE

designed for heavy-duty service

Greater safety, immediate response, less maintenance and easier servicing are all a part of this rugged new hydraulic brake.

Highly efficient, the "DH" brake is basically a self-energizing two-shoe brake in which both shoes do an equal share of the work . . . and are applied to the brake drum with equal effectiveness in both forward and reverse directions. Floating shoe design eliminates heel and toe clearance problems.

Far simpler, the "DH" brake has actually 40% fewer parts than most competitive designs. This results in smaller parts inventory and easier servicing.

The "DH" brake has already met overwhelming acceptance from many leading manufacturers and

operators. Efficiency and design advantages are winning new uses for the "DH" brake every day.

"DH" Series Hydraulic Brakes are available in a broad range of capacities and sizes . . . to meet a variety of operating needs.

For additional information . . . with expert consultation, contact the Timken-Detroit[®] Brake Division. Complete details and specifications on the "DH" brake are available. A staff of experienced engineers is ready to assist you with any brake problem you may encounter.

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For every industrial, agricultural or automotive application
where braking is required!

Plants at: Detroit, Michigan • Oshkosh, Wisconsin • Utica, New York
Ashtabula, Kenton and Newark, Ohio • New Castle, Pennsylvania

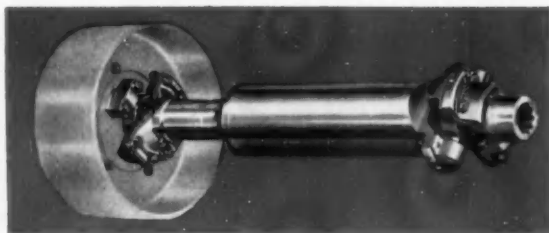
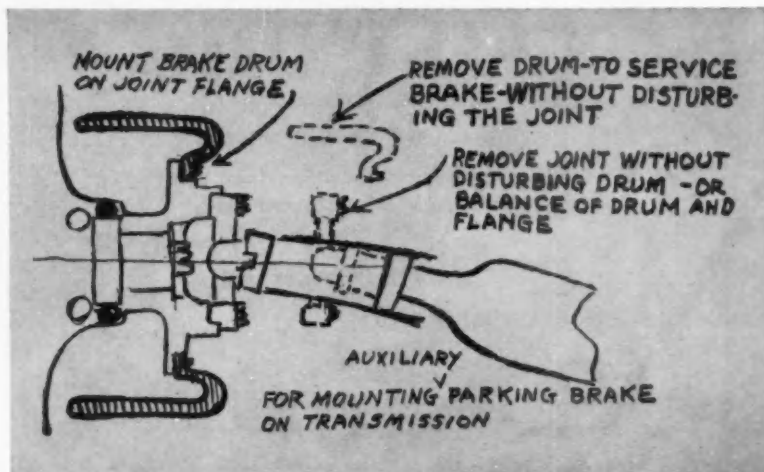
TIMKEN
Detroit
BRAKES

TIMKEN-DETROIT BRAKE DIVISION
ROCKWELL SPRING AND AXLE COMPANY
AHTABULA, OHIO



Prevent Run-Away Trucks— THIS EASY WAY

Truck manufacturers found that serious accidents, caused by run-away trucks, can be prevented by improving the auxiliary parking brake on the transmission. The problem was to mount the brake drum on the universal joint flange. MECHANICS engineers studied and solved the problem — as shown in the sketch at the right.



Note that the brake drum is mounted directly on the flange of the universal joint. Also note that the brake drum can be removed for servicing the brake without disturbing the universal joint — and the joint can be removed without disturbing drum or the balance of the flange or drum.

If you have a transmission mounting, space, torque; balance or other problem — you are invited to utilize the extensive experience of MECHANICS universal joint engineers.

MECHANICS UNIVERSAL JOINT DIVISION
Borg-Warner • 2034 Harrison Ave., Rockford, Ill.
Export Sales: Borg-Warner International
79 E. Adams, Chicago 3, Illinois

MECHANICS *Roller Bearing* UNIVERSAL JOINTS



For Cars • Trucks • Tractors • Farm Implements • Road Machinery •
Aircraft • Tanks • Busses and Industrial Equipment

Low speed fleets need

AUTO-LITE Special-Duty Contact Points

It's a fact that low-speed engine operation is tough on breaker points, because greater primary current flows in low-speed engine operation. This tends to oxidize distributor contact points.

Auto-Lite Special-Duty Contact Points are specifically designed and built to give better performance under the problem condition of low-speed operation. Auto-Lite Special-Duty high-quality tungsten points provide 78% more contact area than regular points, give top performance and longer point life for all "stop-and-idle" operations.

You'll find the answer to the fast, sure starting problem in your fleet with Auto-Lite *Special-Duty* Contact Points. They're best, because they're ignition-engineered especially for delivery trucks, taxis, buses, construction equipment, and other low-speed vehicles as well as over-the-road trucks operating under heavy loads.



AUTO-LITE

ORIGINAL SERVICE PARTS

Auto-Lite Original Service Parts are engineered for superior performance and specified by leading manufacturers as original factory equipment. They are available through better implement dealers, garages and gas stations everywhere.

THE ELECTRIC AUTO-LITE COMPANY
Service Parts Division Toledo 1, Ohio



Auto-Lite manufactures over 400 products, including Spark Plugs, Batteries, Wire and Cable, and Automotive Electrical Equipment...sold throughout the U.S. and Canada.



Mr. Russell A. Fortier, Executive Vice President



Mr. M. A. Papaleo, left, Fresno Terminal Manager in

IN THE FRONT OFFICE . . . MAINTENANCE SHOP . . . AND ON THE HIGHWAY

Bendix-Westinghouse Air Brakes **and economy they give**



Bendix-Westinghouse has produced over 1,500,000 compressors during the past 25 years—far more than any other manufacturer. This experience is your assurance of excellence. TU-FLO 400 model above is designed for the medium and heavyweight classes. Other Bendix-Westinghouse compressors are for the light- and extra-heavy-duty classes.

Fortier Transportation Company of Fresno, California, is one of the country's most interesting and diverse trucking firms. Operations require equipment for handling bulk petroleum products, heavy-duty trucks and low beds for moving shovels, large machinery, contractors' supplies, and specialized equipment for handling bulk and liquid sugar, as well as wine. Fortier is also one of California's largest dry freight truckload and LTC carriers and has recently added to its fleet over \$1 million worth of new power units and rolling stock to handle this phase of the business. Bendix-Westinghouse Air Brakes were specified as standard equipment. In addition, Fortier maintains special road-building and construction equipment and

More trucks travel more miles with



charge of Maintenance and Operations of System



Mr. C. H. VanVolkenburg, Veteran Driver

can give you the same dependability **FORTIER TRANSPORTATION CO.!**

huge rigs for transporting logs and lumber. "In an operation as large and as rugged as ours," says Mr. Russell A. Fortier, Executive Vice President, "all of our equipment must pay its own way by delivering consistently dependable and economical performance. On these two scores Bendix-Westinghouse Air Brakes have never let us down."

To see what Mr. Fortier means, take a look at these facts taken from the company records. The system's Bendix-Westinghouse Air Brake equipped rigs roll up an annual total of *nearly 9,000,000 miles* at an actual compressor operating cost of only *\$.00024 per mile . . .* they maintain an average brake lining life of *70,000 miles*, while stopping

gross loads up to *76,800 pounds per unit . . .* and in keeping with the company's maintenance program, they travel *125,000 miles* between compressor overhauls.

While such a record is outstanding, it is by no means unique. Thousands of the nation's truck operators have experienced similar profitable results with these mighty brakes. Why not follow their lead—specify Bendix-Westinghouse on your next new-truck order . . . or consult your local distributor about converting your present vehicles to air with field installation kits. Either way you'll join Fortier Transportation Company in agreeing that Bendix-Westinghouse Air Brakes are tops in stops!

Bendix-Westinghouse than with all other air brakes combined!

Bendix-Westinghouse



AIR BRAKES

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY • General Offices and Factory—Elyria, Ohio • Branches—Berkeley, Calif. and Oklahoma City, Okla.

WARRENGAS—*The motor fuel that delivers —*

7

Specific Savings for Fleet Owners

1. **FUEL PUMP** eliminated
2. **SPARK PLUG LIFE** greatly increased
3. **ENGINE OVERHAULS** cut substantially
4. **OIL LIFE** increased several times
5. **CARBURETOR** repairs reduced
6. **"DOWN TIME"** for repairs greatly lessened
7. **FUEL COSTS** cut

Only—

POWER MOTOR FUEL SALES *Company offers you—*

7

Skilled Services **essential to profitable operations**

We guarantee—

1. Dependable supply of 115-octane Warrengas ...backed and delivered by one of the largest producers of LP-Gas in America.
2. A specified saving under what you now pay per gallon for motor fuel.
3. Modern storage and refueling facilities engineered to the specific needs of your fleet.
4. Proper conversion of your fleet equipment,
5. supervised by experienced engineers specializing in this field.
5. Complete personnel training programs conducted by men who know the answers.
6. Assistance in all details—plans, permits, etc. We oversee the whole job.
7. Assistance in arranging financing, if desired, so capital is not tied up.

ONE COMPLETE SERVICE—ONE RESPONSIBILITY

*This story is BIG—
too big to tell on one page. Write, wire or phone
CHIEF ENGINEER*

POWER MOTOR FUEL SALES *Company*

140 South Dearborn Street,
Chicago 3, Illinois

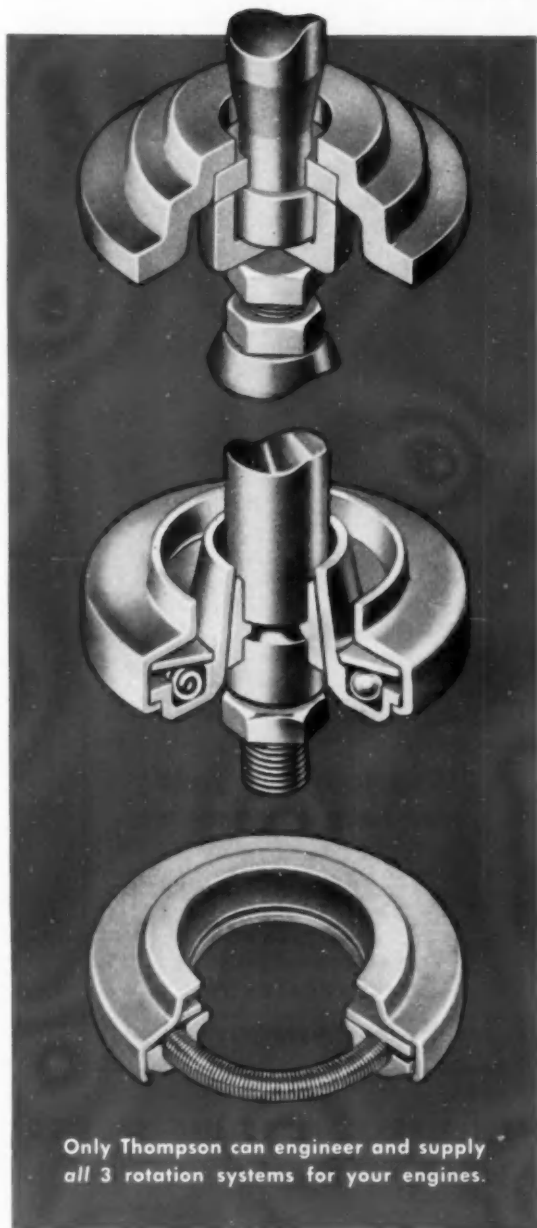
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Three Types of Valve Rotation

All Thompson developed



Only Thompson can engineer and supply
all 3 rotation systems for your engines.

Pick the Thompson valve-rotation system that
best meets your engine service requirements:

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or "free" rotation. Used where normal
engine duty is not severe enough to require
positive-powered rotation—

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Developed*

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for proved positive rotation in measured
stages where severest engine-service con-
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ROTOCOIL

the latest Thompson rotation development
that provides measured, positive valve
rotation at unit cost competitive with any
other rotation system—

*✓ Thompson
Developed*

Only Thompson can engineer and supply *all three*
rotation systems for your engines. The detailed story
of valve rotation is featured in Thompson Products'
Engineering Bulletin, Vol. 1, No. 3.



Valve Division Thompson Products, Inc.

1455 EAST 185th STREET • CLEVELAND 10, OHIO

COST-SAVING IN OFF-THE-ROAD SERVICE

THE SEIBERLING POWER LUG



Seiberling has built the Power Lug with extra strength and extra toughness from bead to tread for *greatest resistance to cutting, gouging and impacts*. It has a *deeper tread design, heavier undertread, heavier lugs, heavier side-wall, and a heavily insulated cord body*.

Ask your Seiberling dealer for complete information about this specialized tire that gives long, low-cost service in operations where other tires are cut to ribbons in short order.

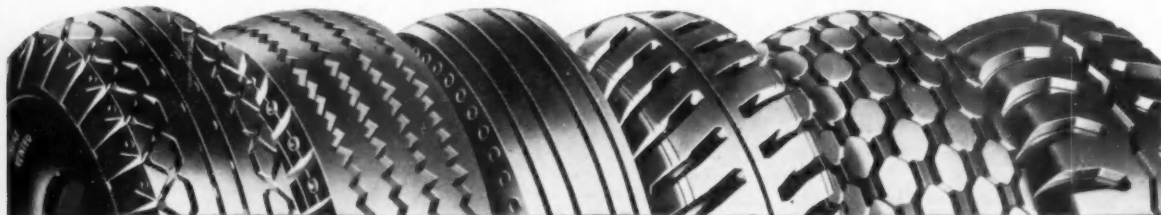
**Specially designed
for long service in**

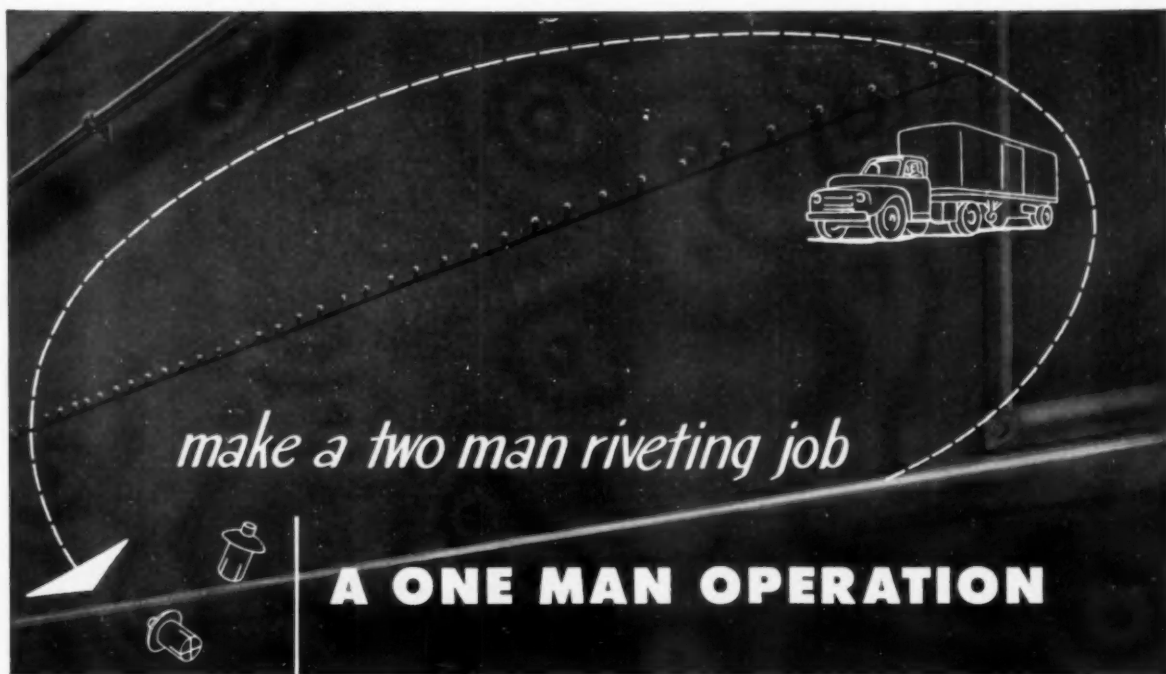
- LOGGING
- MINING
- QUARRYING
- OIL FIELDS
- TRANSPORT MIXERS
- CONSTRUCTION WORK

Doubles your recapping potential!

LET US ENGINEER YOUR TIRE PROBLEMS—IT'S A FREE SEIBERLING SERVICE

WRITE: L. M. SEIBERLING, Vice-President in Charge of Sales, Seiberling Rubber Company, Akron 9, Ohio





make a two man riveting job

A ONE MAN OPERATION

SOUTHCO DRIVE RIVETS

...speed trailer repairs...cut costs

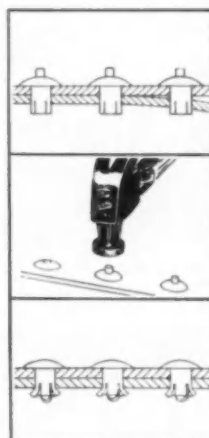
A large trailer manufacturer uses SOUTHCO Drive Rivets throughout their branches for repair work because they enable one man, with only a hammer and a drill, to do patch work quickly and easily.

These rivets are ideal for "blind" locations because of the automatic pull-up feature which assures a tight joint. And SOUTHCO Drive Rivets won't vibrate loose. They require no finishing operations... no clipping, grinding, filing or deburring. Installation is quiet... no time is lost waiting for irons to heat... in fact no special tools are required... and no tool maintenance.

In addition, the smooth heads of SOUTHCO Drive Rivets eliminate the need for molding strips—and on interiors, they won't snag cargos.

SOUTHCO Drive Rivets are fast—just hit the pin—they make a strong joint and the automatic pull-up means a tight joint.

How can you benefit from the advantages of SOUTHCO Drive Rivets? Write for complete information to SOUTHCO Div., South Chester Corporation, 228 Industrial Highway, Lester, Pa.



Place
SOUTHCO
rivet in
drilled holes

Hit the pin...

Automatic
pull-up assures
tight joint

Rivet and manufacture
patented

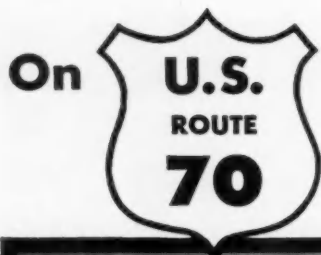
SOUTHCO

FASTENERS

**PAWL • SCREW AND SPRING •
DRIVE RIVETS • ANCHOR NUTS •
ENGINEERED SPECIALTIES**

OFFICES IN PRINCIPAL CITIES

WHEREVER TWO OR MORE PARTS ARE FASTENED TOGETHER, STANDARD AND SPECIAL DESIGNS FOR IMPROVED PERFORMANCE AND LOWER PRODUCTION COSTS



On

**U.S.
ROUTE
70**

**"Thanks to Solex, I feel better
at the end of a trip"**

says Robert Kirk, Memphis, Tenn.



U.S. Highway 70 runs west through Memphis. It's a scenic route, but there's plenty of heat and blinding glare. Solex takes the sting out of the sun because it cuts down the solar heat and glare entering the cab. Makes driving easier and more pleasant.

Mr. Kirk drives for Campbell 66 Express, Memphis terminal. During the past 20 years he has driven trucks equipped with regular clear glass and with Solex® Safety Glass. We asked him how he likes Solex.

"My eyes used to burn and ache at the end of a trip," said Mr. Kirk. "Since the boss put Solex windshields in my cab most of the strain on my eyes is gone. Solex keeps heat out of the cab, too."

To prove his point Mr. Kirk says, "When I buy a new car I'm going to see that Solex is installed all the way 'round."

Solex reduces the amount of solar heat and glare entering the cab. It makes for more comfortable and relaxed driving—more alert and safer drivers. These considerations make it worth your while to get Solex Safety Glass in all your new equipment, and to replace the glass in

your present trucks with Solex.

You can get Solex in the well-known types of Pittsburgh Safety Glass—Duplate® and Duolite®—as well as in Herculite® and conventional plate glass. For more information write to Pittsburgh Plate Glass Company, Room 6283 632 Fort Duquesne Boulevard, Pittsburgh 22, Pennsylvania.



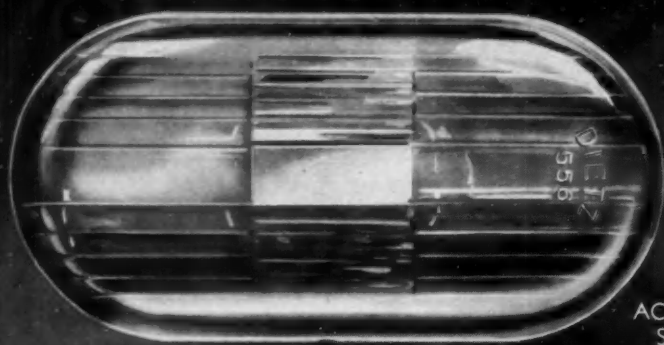
SOLEX *"the best glass under the sun!"*



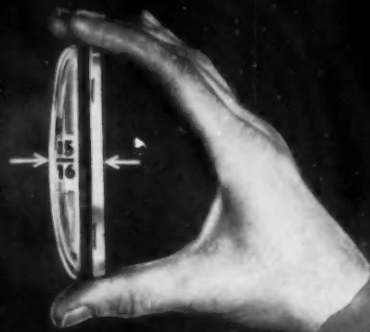
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PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



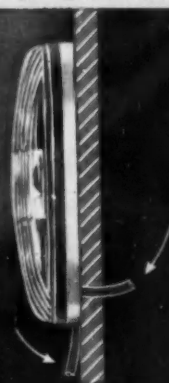
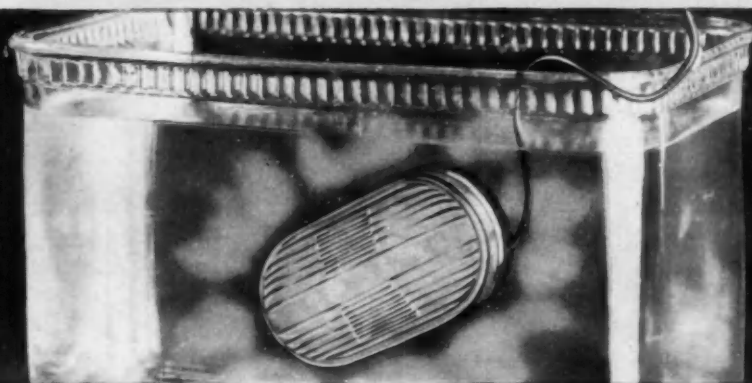
ACTUAL
SIZE



NEW DIETZ MARKERLITE MOUNTS FLUSH. TWO BULBS.



ONE STAYS LIGHTED IF OTHER FAILS. O-RING SEAL...



WATERPROOF, RUSTPROOF. WIRE INSTALLS INSIDE OR



DIETZ

Your Dietz jobber has the facts on the new No. 59 Markerlite. See him. Or write us for a catalog sheet. R. E. Dietz Co., Syracuse, N. Y. Manufacturers of the most complete line of automotive lighting and safety equipment in the world.

OUT. SNAP-ON LENS (NO SCREWS) SAVES TIME, FUSS.

worried
about weight?
refrigerate—
with
lightweight

Thermo King



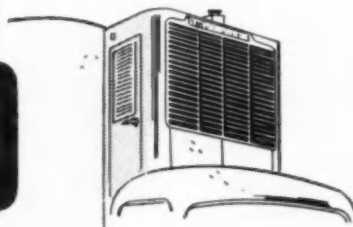
You're in business to haul freight and not refrigeration. Every pound of unnecessary weight reduces your payload capacity.

That's why *Thermo King* is made almost entirely of lightweight, sturdy aluminum . . . and is designed to

deliver maximum cooling in minimum space and with minimum weight.

With *Thermo King* you get more refrigeration per pound than with any other type of refrigeration . . . dry or wet. Refrigerate with **THERMO KING**.

Thermo



King

44 SO. 12TH STREET, MINNEAPOLIS, MINNESOTA • 2011 E. 65TH ST., LOS ANGELES, CALIFORNIA



USS COR-TEN Steel eliminates 1500 lbs. deadweight ...increases payload capacity of Coca-Cola Bottling Co. truck!

This truck, manufactured by the Ford Motor Company, Detroit, Michigan, has a body by Advance Body and Tank, Inc., Los Angeles, California, and is owned and operated by the Coca-Cola Bottling Co.

EACH time one of these Coca-Cola trucks is loaded, approximately 25 extra cases are carried in place of deadweight. And since this is only one of 50 such trucks, that means 1250 extra cases are carried every time this fleet makes one trip . . . thanks to USS COR-TEN High Strength Steel!

The use of USS COR-TEN Steel enables the designers of this truck body, Advance Body and Tank, Inc., Los Angeles, Calif., to get rid of 1500 pounds of unnecessary, payload-stealing deadweight. This design results in a truck which is strong, better able to take the abuse of daily service; and because it can carry bigger loads, is more economical to operate.

USS COR-TEN High Strength Steel has many unique properties which make its application especially valuable to the trucking field. Because USS COR-TEN Steel has a yield point $1\frac{1}{2}$ times that of regular carbon steel, has 4 to 6 times the resistance to atmospheric corrosion, has 50% higher fatigue strength and offers superior resistance to abrasion and impact, it is often first choice of many truck fabricators to give their equipment greater strength, more capacity or lighter weight. The slight additional cost of COR-TEN Steel construction will be more than offset by greater durability and stamina which pay off in lower repair bills and longer life and by savings resulting from increased payloads.

For more information on USS COR-TEN High Strength Steel, send for a free book, or contact the nearest District Sales Office of United States Steel.

NOW AVAILABLE!

Our new "Design Manual for High Strength Steels" is ready for distribution. This excellent book contains comprehensive and practical information that you will find extremely useful in designing your product for greater economy and efficiency by the sound use of high strength steels.

For your free copy, write on your company letterhead giving your title or department to United States Steel Corporation, Room 5380, 525 William Penn Place, Pittsburgh 30, Pa.

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS COR-TEN High Strength STEEL



"One Lipe DP Clutch went 112,000 miles without teardown . . . two more are past 125,000 and still going strong."

— says CHRIS CASCIA, Maintenance Superintendent
Boss Linco Truck Lines, Buffalo, N. Y.



"In September, 1953, Boss Linco Lines received delivery of three White Tractors equipped with Lipe 14" Direct Pressure Clutches. We assigned them company numbers 467, 468 and 469.

"The Lipe clutch in #468 was removed after 112,000 miles because the driven disc had become covered with grease, through no fault of the clutch itself.

"You can be sure we're well satisfied with the mileage we received from this clutch. Except for the grease, it would no doubt still be on the road along with the Lipe clutches in Tractors #467 and #469, which have now gone over 125,000 miles with no down-time for clutch service.

"As you can see, this will make a very happy difference in the maintenance record of all three vehicles."

- If you would like to build clutch mileage like the above into your vehicles, write us today for complete details on the Lipe DP Clutch . . . now available in five sizes for engines developing from 300 to 1300 ft-lb of torque.



Manufacturers of Automotive Clutches & Machine Tools



Lipe-ROLLWAY
CORPORATION
SYRACUSE 1, N. Y.

New Ideas Pay Off in the Trucking Industry

BIG FLEET OPERATION... ON MODERN FOUNDATION



FOR TOP MILEAGE, MORE BIG FLEETS ARE ROLLING ON COST-CUTTING DAYTON TRUCK TIRES THAN EVER BEFORE

THE TREND IS TOWARD stronger, lighter construction in trucks and truck-trailers for more payload capacity. In anticipating this trend, Dayton has provided a *stronger, lighter, cooler-running* truck tire—a truly modern foundation for today's big fleet operation.

Super strength has been built into new Dayton Truck Tires. Heat producing bulk has been taken out, discarded. The result is a *stronger, lighter* tire that is *cooler-running* under sustained speed and load. With Dayton's exclusive 2200

Denier Super Cordura construction, 8 actual plies do the work of 10 plies (12-ply rating) . . . save weight that can be converted to profitable payload—give 30% greater strength than the average of 4 other first line tires of comparable size. (See chart.)

	50	60	70	80	90	100
DAYTON						
Brand A						
Brand B						
Brand C						
Brand D						



CALL YOUR DEALER OR WRITE US AT DAYTON FOR MORE INFORMATION ON the Dayton Truck Tire that has proved top mileage on tests over millions of truck miles—the tire that is a full 30% stronger than the average of 4 other leading 1st line 12-ply rating tires.

DAYTON RUBBER CO., TIRE DIVISION, DAYTON 1, OHIO

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Dayton

A COMPLETE LINE OF TRUCK
AND PASSENGER CAR TIRES

Thorobred Tires

REDUCED ROAD FATIGUE



Milsco
MILWAUKEE

Road King



**with Super-Action 2-Way
Vibration Dampers**

**THAT ABSORB HIGH FREQUENCY
VIBRATIONS AND LATERAL SHOCKS**

America's finest transport seat . . . "Cool as a Cloud" . . . ventilated for free air flow between deep roomy cushion and back rest . . . revolutionary type of ventilated covering material. Four-point suspension on rubber vibration dampers absorbs high frequency vibrations as well as lateral shocks—a big advance in overcoming driver fatigue. Convenient automotive type fore and aft adjustment with finger tip control for leg comfort and improved foot action. The most outstanding seat yet designed for transport service.



Deep Cushion

COMFORT — WITH CONTOUR SUPPORT

BODY "ANCHORAGE" IMPROVES DRIVING RESPONSE

"The swing is to Milsco Seating" . . . because Milsco road-engineered Cushion Seats offer so much more in driver-comfort, air-flow coolness, and years of lasting durability. In transport circles, the new Milsco Road King has already received an enthusiastic welcome from both drivers and fleet operators. Drivers, especially, like the Road King because it gives them a feeling of road security. They sit "in it," not on it. This all-around posture support and body "anchorage" tremendously reduces fatigue and maintains high level morale. Other popular Milsco transport seats include the popular "Champion" with cushioned side arms, the companion seat to the "Road King" the 2-man "Buddy," and the hi-lo "Spartan." Get the facts on Milsco Cushion Seats now and benefit by Milsco's broad expansion program in the trucking industry . . . and enlarged production line economies.

SPECIFY "MILSCO" SEATING WHEN YOU ORDER TRACTORS

MILSCO MANUFACTURING CO.

FACTORY AND MAIN OFFICE

DEPT. T, 2758 N. 33rd STREET, MILWAUKEE 45, WIS.

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**America's Most Versatile
Manufacturer of Truck Seating**

**CHAMPION
No. F850**



"BUDDY"



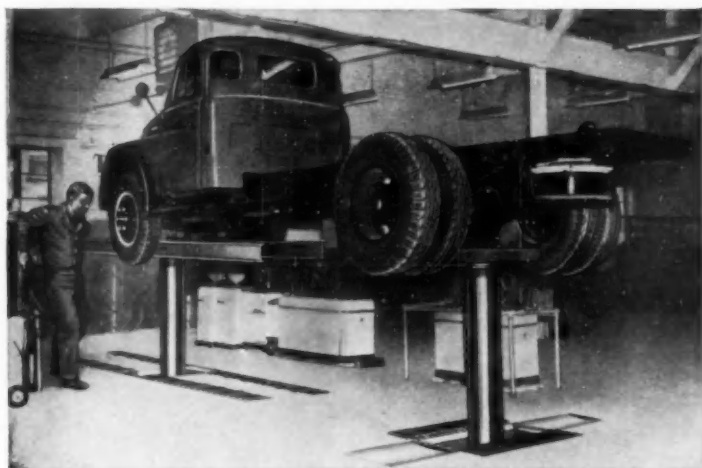
LIFT-N-TILT



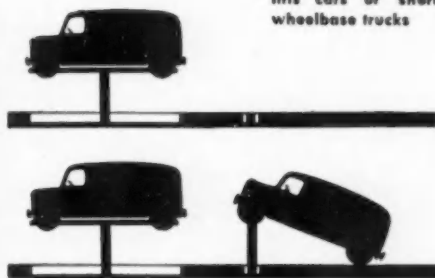
**SPARTAN
No. F984**

YOU GET 3-IN-1 WITH A GLOBE "SLR" HOIST

2-POST HEAVY-DUTY MODEL



Long rail post alone
lifts cars or short
wheelbase trucks



Saddle post used for
front-end service

Heavy, long wheel-
base trucks accom-
modated on 2-post
superstructure

... most versatile Hoist you can own

Designed especially for garages and fleet shops servicing trucks, commercial vehicles and passenger cars, Globe SLR 2-Post Hoists help get them back on the road faster. Free-wheel construction provides more underbody working space, speeds repair jobs.

Cylinders can be located to provide for wheelbases from 100" to 240". Each post can be operated independently. Two light trucks or cars can be serviced at one

time, as shown above. Installation may be either flush with floor or non-recessed. Lifting capacity is 18,000, 27,000 or 40,000 pounds depending upon model.

Globe Hoists are different. Globe Hoists give you most for your money . . . mirror-smooth cylinder walls, precision-fitted movable lower guide bearings, long-wear trouble-free packings, rugged superstructures. Globe patented and pioneered "firsts" set the pace in Hoist design.

1ST

*in design
in workmanship
in performance*

GLOBE
THE BEST LIFT
**TRUCK
HOISTS**

PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

GLOBE HOIST COMPANY CCI-732-SLR
E. Mermaid Lane at Queen St., Phila. 18, Penna.

Please send me full information on Globe Truck Hoists that help assure bigger revenue-mile earnings.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____



"BRIDGE CONTACT" HOISTS
SINGLE POST



TWO POST



FREE WHEEL TYPE
AUTO HOISTS



ROLL-ON TYPE
AUTO HOISTS



TWO POST
AUTO HOISTS



TWO POST
TRUCK HOISTS



FOUR POST ELECTRIC
AUTO HOISTS



WHEEL
DOLLY



TRANSMISSION
DOLLY

You buy the right truck for the job . . .

Get the right heater, too!

Evans heaters are built specially for trucks!
... *that's why they save you money!*

Smart truck buyers aren't satisfied with just any kind of trucks . . . they want trucks that will do the job. And those carefully chosen trucks should have the right heaters for each specific job. That's where Evans helps you, Mr. Truck Buyer. Evans builds heaters for *every* kind of truck service.

Evans Truck Heaters are backed by years of engineering know-how. They're precision-designed, quality-built, and rigidly tested. Components are extra heavy-duty and carefully matched to provide long life, low maintenance costs. Evans heaters deliver high-volume fresh air heat for maximum cab comfort. This means alert, comfortable drivers, fewer driver complaints, greater efficiency and safety.

Evans heaters will save you money! For full information, write today to: Evans Products Company, Dept. Q-7, Plymouth, Michigan.

● Fleet owners report that Evans Truck Heaters give complete satisfaction even in severe conditions, as illustrated here, with temperatures down to 20 degrees below zero over extended periods.



REGIONAL REPRESENTATIVES:

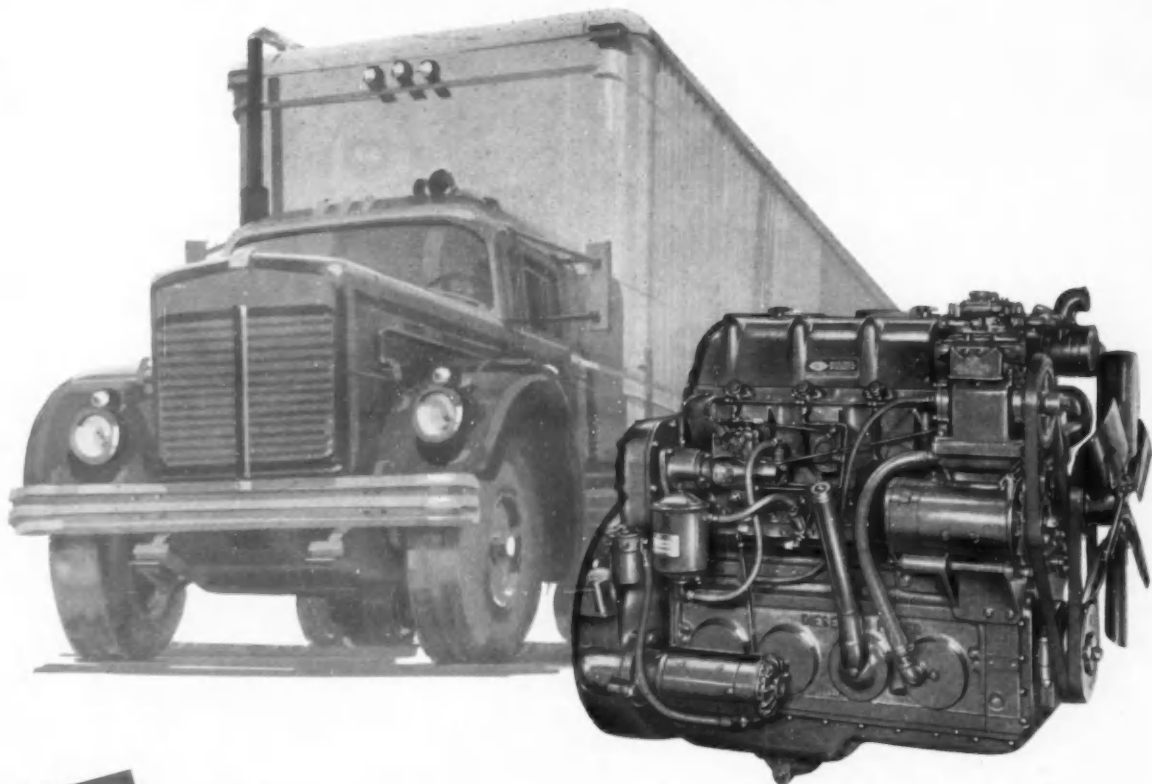
Cleveland, Frank A. Chase • Chicago, R. A. Lennox Co., Inc.
Detroit, Chas. F. Murray Sales Co. • Allentown, Pa., P. R. Weidner

**EVANS TRUCK AND BUS HEATERS
AND VENTILATING SYSTEMS**



**EVANS PRODUCTS COMPANY
ALSO PRODUCES:**

EVANITE BATTERY SEPARATORS
RAILROAD LOADING EQUIPMENT
BICYCLES AND VELOCIPEDS
EVANEER FIR PLYWOOD



4 Cyl. P&H Automotive Diesel 2-Cycle 201 H.P.

P&H **HAULS UP TO 1000 lbs. MORE PAY LOAD**

A heavy duty, P&H Engine of modern aluminum design, pound for pound, delivers 43% greater horsepower than the average* Diesel. During the course of its life, it easily pays for itself by freeing you from the weight of a heavier engine.

Trucks now powered with P&H Diesels haul up to 1,000 pounds more freight each day than they formerly did. Extra dollars in revenue which result from switching to a P&H Engine often runs into four figures a year! The lighter weight of a P&H Diesel is a real pay load booster.

With every downstroke of every piston a power stroke, a 2-cycle P&H Engine is a lightweight, powerhouse. Pulling power and plenty of it.

High torque, too. Truly a "hill-flattener" when clearing inclines with a full load. Drivers like its instant response, fast starts and quick get-a-way.

P&H Diesels burn fewer gallons of low-cost fuel. Provide more operating time and save on driver cost, too. P&H Diesel design with 25% fewer parts makes servicing quick and easy. After thousands of hours on the road, the "unitized" P&H power assembly makes possible complete overhaul in a matter of only hours instead of days.

It will pay you to investigate the unusual values of 2, 3, 4, and 6 cylinder P&H Automotive Diesels for powering your trucks from 35,000 pounds G.C.W. and up.

* Based on comparisons of continuous h.p. ratings of 5 leading Diesel engines in the P&H horsepower range.

For Modern Engineering, Look to
HARNISCHFEGER

P&H DIESEL ENGINE DIVISION
Crystal Lake, Illinois

P&H Diesel Engine Division
Harnischfeger Corporation
Crystal Lake, Illinois
Please send me complete information on P&H Automotive Diesel Engines.

Name

Company

Street

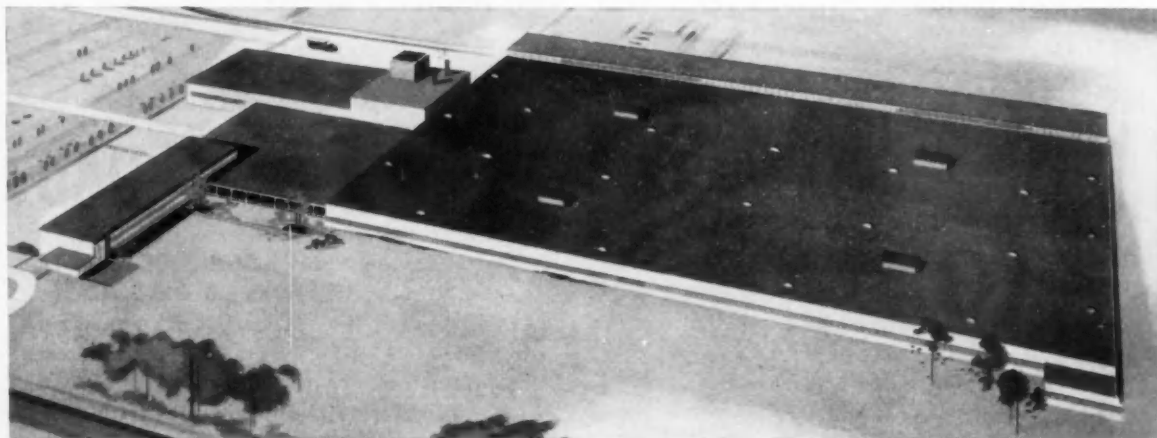
City Zone State

*Just a
few weeks now
until Thompson
opens*

~~Coming soon...~~

its new and modern automotive

parts manufacturing facility



In just a few weeks now, Thompson will begin operations in its new, modern parts manufacturing facility now nearing completion in the Detroit area. This new plant will employ the latest methods and equipment available to provide low cost, efficient manufacture of chassis parts.

Chassis design improvement has become an increasingly important factor in the automotive industry's future planning. This, plus the tremendous acceptance of Thompson steering linkage and other chassis

parts has made Thompson's latest expansion necessary.

Finer steering linkage and suspension parts, new and advanced manufacturing techniques, better customer service—these are but some of the advantages Thompson will offer when its new Detroit plant begins operations.

Have your engineers call on Thompson to help develop your steering linkage and suspension. Write, wire or phone Thompson Products, Michigan Division, 7881 Conant Ave., Detroit 11, Michigan, WALnut 1-5010.

You can count on Thompson Products

Michigan Division: Detroit • Fruitport • Portland

WORLD BESTOS

RED BLOCK



**STOPS
brake fade**

gives

MORE MILEAGE

LONGER DRUM LIFE

for ALL heavy-duty trucks
and trailers

... just turn the page for **ON-THE-JOB PROOF!**



NO BRAKE FADE

"One of our most serious (and dangerous) problems was brake fade. I'm happy to report that RED BLOCK has stopped fade completely. The records also show RED BLOCK has increased mileage between relines and cut drum replacement costs almost in half!"

— **Peole's**
Butner, North Carolina



SAFETY, DEPENDABLE STOPPING POWER

"We operate a fleet of 440 new Fruehauf trailers over an 8,435-mile network serving eight states. Safety and dependable stopping power under all conditions were our prime considerations in choosing World Bestos RED BLOCK Combinations for the entire new fleet."

— **Yellow Transit Freight Lines**
Kansas City



MILEAGE ALMOST DOUBLED

"We have standardized on World Bestos RED BLOCK because we have almost doubled our mileage in comparison with other standard makes of linings. We have found that RED BLOCK gives our drivers dependable control under all driving conditions."

— **Lamb Transportation Company**
Long Beach

the PROOF
keeps rolling in —

WORLD BESTOS
RED BLOCK

(Heavy Duty Brake Block Combination)

gives
**BETTER, SAFER
BRAKES...REDUCES
FLEET OPERATING
COSTS!**



FEWER DRUM REPLACEMENTS

"We have been using World Bestos RED BLOCK Combination for five years. It gives us better stopping ability than any blocks we have tested or tried in service. RED BLOCK has greatly reduced our purchases of replacement brake drums."

— **Baltimore Transfer—Motor Freight Express**
Baltimore



WORLD BESTOS



Concrete evidence of
RED BLOCK'S superior
performance is proved by
fleet records. In many cases,

especially for the larger fleets, **RED BLOCK** was selected after months of testing in competition with all leading heavy-duty brake blocks. But regardless of fleet size or operating conditions their records and letters tell the same story: World Bestos **RED BLOCK** can't fade; it gives more miles between relines; it saves on drums. The net result is better, safer, more dependable brakes . . . and substantially reduced operating expense!

A few typical letters are quoted here. Read what these users say. Read the **RED BLOCK** description below. Then try World Bestos **RED BLOCK** on your own equipment. Prove it for yourself that **RED BLOCK** delivers better brakes . . . at lower cost per mile . . . than any other brake blocks you have used or tested!



LOWER OPERATING COSTS

"Our records show that since we started using World Bestos our brake relining and drum replacement expense has been reduced enough to make a noticeable difference in our per-mile operating costs."

—Hennis Freight Lines, Inc.
Winston-Salem



TESTS PROVE SAVINGS

"World Bestos 'No-Fade' **RED BLOCK** was thoroughly tested by the P-I-E Engineering Department. P-I-E specified **RED BLOCK** for new over-the-road units because . . . tests proved a savings, as **RED BLOCK** lasts longer and requires fewer drum replacements."

—Pacific Intermountain Express
Oakland



the only brake block combination
with a
NO-FADE GUARANTEE
(HEAT OR WATER)

here's how **RED BLOCK** stops brake fade
. . . gives more miles . . . reduces drum wear:

RED BLOCK friction formula is entirely different from that of any other brake block on the market. Ordinary friction materials lose friction at 600 degrees and above but **RED BLOCK** performs efficiently at temperatures as high as 1300 degrees F. It is not affected by glaze or water film . . . gives drums a smooth finish that provides a perfect braking surface at all times. As a result **RED BLOCK** never loses its stopping ability . . . it can't fade!

USED ONLY IN COMBINATION

RED BLOCK has such perfect frictional characteristics that usually only one Red segment per wheel is needed. Two Red segments are used when service conditions are especially abusive. The other segments ("D" Blocks) supply the right

functional characteristics to smooth the braking action and add to the stability and long-wearing qualities of the brakes. Thus, the **RED BLOCK** Combination gives dependable braking at all times . . . plus longer service between relines.

"HEAT CHECKING"

Continuous, high-pressure braking produces abnormal stresses in overheated brake drums, causing distortion and cracking known as "heat checking." Heat checking ruins drums and linings and is a major expense in heavy duty truck maintenance. **RED BLOCK** gives dependable stopping power with considerably less brake pressure. Less severe braking gives the drums more cooling-off time . . . reduces danger of checking . . . greatly prolongs drum life.

WORLD BESTOS
offers

a Full Range of Frictions for All Heavy-Duty Braking Requirements!

In addition to high-friction RED BLOCK Combination for severe service (described on preceding pages) World Bestos Brake Blocks are available in a variety of frictions and combinations to cover normal service needs of all vehicles requiring blocks of ½" thickness and over.

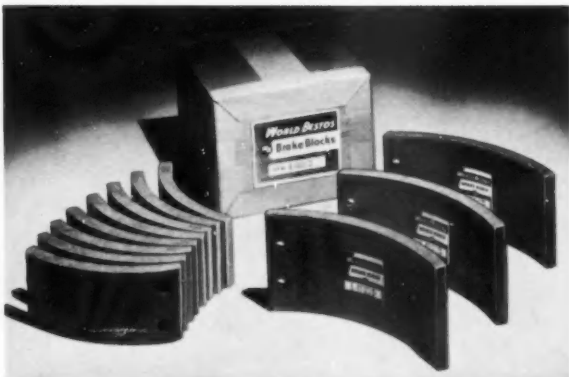
E, Y, D and U Frictions (described briefly below) assure safe, dependable brakes with a minimum of fade, drum wear, or downtime for adjustment. World Bestos Brake Blocks pay for themselves many times over in added mileage and reduced brake maintenance expense.

"E" FRICTION

Medium high friction. Recommended for trucks and buses operating under average conditions requiring fast stops with good mileage.

"Y" FRICTION

Medium friction. For trucks and some buses operating under average conditions. "Y" gives safe stopping power with extra mileage.



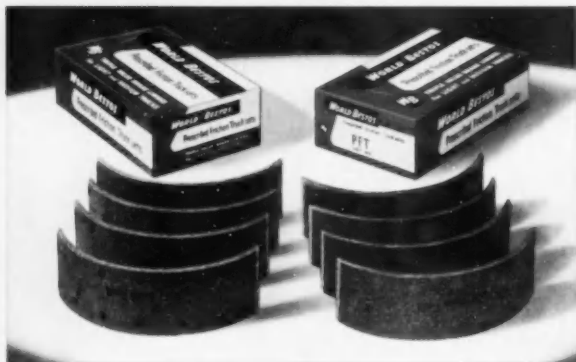
"D" FRICTION

Medium low friction. Low-fade compound designed to give extra long mileage when brake capacities permit.

"U" FRICTION

Modified high friction. For buses and some trucks in extreme, multi-stop service. Always used in combination with "D" friction.

WORLD BESTOS PFT Prescribed Friction Truck Sets



...special friction formulas
to meet severe braking demands
of light and medium trucks

World Bestos "PFT" Sets are engineered exclusively for light and medium trucks and buses in hard-driving, multi-stop service. Five special friction formulas are used in the most favorable combinations to give *safe stopping power, positive fade control and longer wear* for each type of vehicle and its braking system. No "break-in" period is required. "PFT" Sets assure top performance . . . safety and dependability at lower cost per mile . . . for both regular and power brakes. Available for riveting or bonding.

"PFT" sets

use 5
special
friction
formulas



World Bestos Brake Blocks and Prescribed Friction Truck Sets are unsurpassed for Performance plus Savings! See your World Bestos Distributor or write direct to the factory for complete information and price lists.

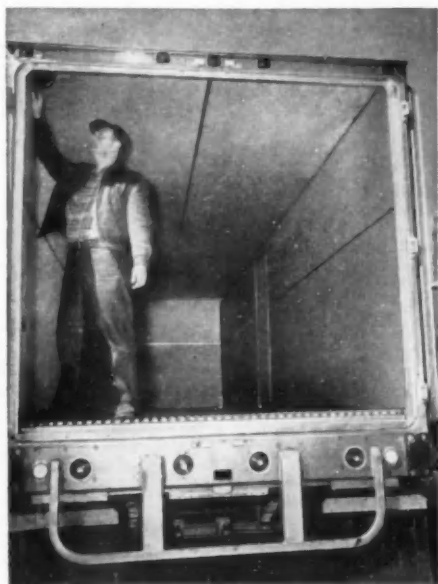
WORLD BESTOS

NEW CASTLE, INDIANA



One of National's new "Volume Vans." Old Stainless trailer at left requires no more maintenance than the new one.

1000 trailers work 24 hours a day and they're all made from Stainless Steel...read why:



Notice wide-swinging doors on Volume Van. Stainless construction has completely eliminated problem of corrosion around lamp openings.

National Tea Company bought their first Stainless Steel trailers in 1940, and those first trailers are still in use. According to George Rolf, warehouse and transportation chief for this large company, "Stainless trailers are the only trailers. In our service, corrosion will ruin ordinary trailers in six or seven years . . . years of constant painting and repair."

National Tea is now beginning to use the new Freuhauf Stainless Steel "Volume Van." These vans make full use of the high strength and corrosion resistance of Stainless Steel by eliminating bulky support posts. Walls are thinner, too. In fact, National Tea found that they could haul 20% more bread in the Stainless Volume Van—a daily saving of \$30 per trailer!

"We pay only six to eight per cent more for the Stainless jobs, but we know they'll last at least twice as long, and they don't require the annual two weeks 'maintenance vacation' demanded by regular trailers for painting and overhaul."

Investigate these revolutionary Stainless Steel trailers. Learn for yourself why no Stainless Steel trailer has ever worn out!

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO • NATIONAL TUBE DIVISION, PITTSBURGH
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS STAINLESS STEEL

SHEETS • STRIP • PLATES • BARS • BILLETS • PIPE • TUBES • WIRE • SPECIAL SECTIONS

UNITED STATES STEEL

New valve combinations by **TOLEDO STEEL** *can* **DOUBLE...** *even* **TRIPLE...VALVE MILEAGE**



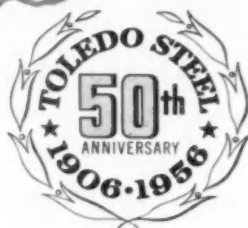
SATISFIED with your present valve mileage? Even so, a consultation with your local Toledo Steel Distributor could prove profitable. New combinations of Toledo Steel valves and valve train parts are doubling, even tripling, valve mileage for truck operators all over the country. "Down time" is reduced and maintenance costs lowered.

If your present valve mileage is low or just average... or if you are experiencing problems such as valve burning, stem sticking, seat deposits, etc.—see your Toledo Steel Distributor. He can show you the combination of valve and valve train parts that will solve your problem and give you longer valve life at lower cost per mile.



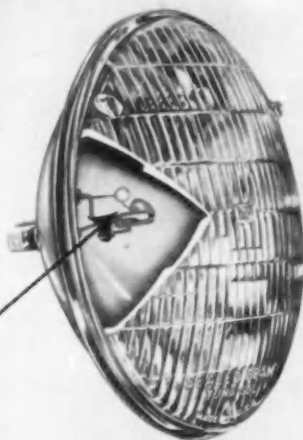
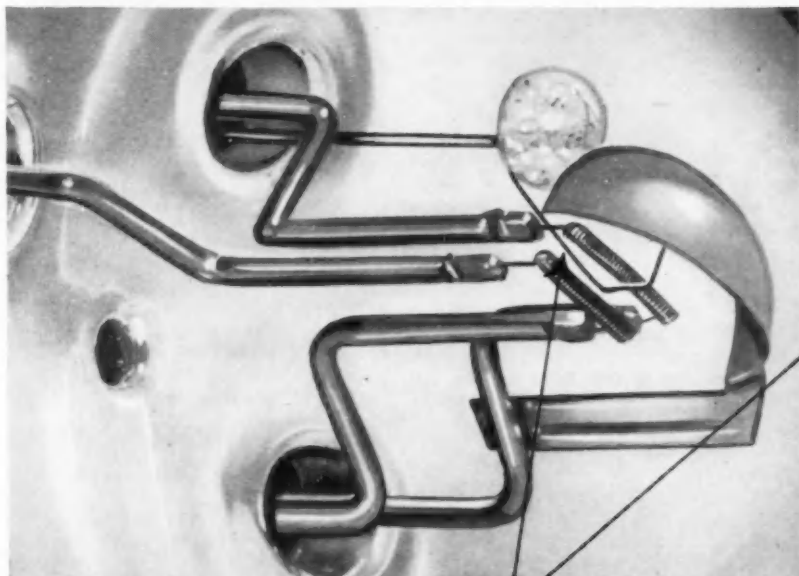
TOLEDO STEEL PRODUCTS

6402 CEDAR AVENUE • CLEVELAND 3, OHIO
Division of Thompson Products, Inc.



TUNG-SOL VISION-AID HEADLAMP

Ruggedized FOR TRUCK SERVICE



NO. 5440-S RUGGEDIZED
VISION-AID HEADLAMP
WITH E-Z AIM PLATFORMS

New **"Filament Anchor"** protects against premature burnouts

This is the headlamp with the nationwide reputation for standing up under toughest service conditions . . . for reducing headlamp replacement costs . . . and for keeping drivers out of trouble on the road because of faulty lighting.

The "filament anchor" . . . an exclusive Tung-Sol safety feature . . . provides a ruggedness that lengthens lamp life. The "anchor" keeps the top filament from sagging and prevents shorts and premature burnouts. The entire filament structure is designed to absorb shock and vibration. It safeguards the filaments and maintains accurate beam focus under all operating conditions.

Tung-Sol No. 5440-S Vision-Aid Headlamps embody all the newest principles of headlamp engineering. They have the highest candlepower ever built into a production headlamp. Their improved passing beam has the greatest range, focussed for clear illumi-

nation of the vital right lane and road shoulder. And the shielded low beam filament eliminates glare-back in fog, rain and snow.

Other lamps in the complete Tung-Sol truck line have been ruggedized where service conditions indicate the need for extra durability. Standardize on Tung-Sol lamps for safety, economy and dependable service.

TUNG-SOL ELECTRIC INC., Newark 4, N. J.

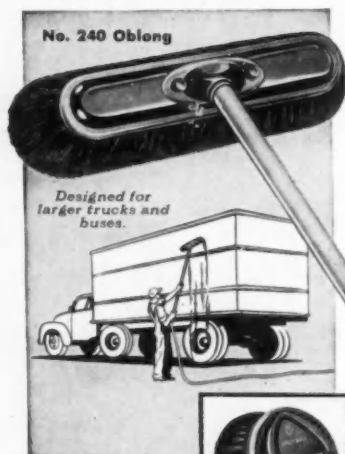
Sales Offices: Atlanta, Columbus, Culver City, Dallas, Denver, Detroit, Melrose Park (Ill.), Newark, Philadelphia, Seattle, Canada: Montreal.



TUNG-SOL

NO. 5440-S RUGGEDIZED
VISION-AID HEADLAMPS
WITH E-Z AIM PLATFORMS

SPEED WASH Outlasts 3 Ordinary Fountain Brushes



No. 240 Oblong

Designed for
larger trucks and
buses.

Not even three ordinary fountain brushes can match the long lasting performance that results from the superior construction and design of Speed Wash. Soft, resilient bristles (50% Nylon, 50% Select Horsehair) can't mat or tangle. Tufts are molded into block, can not come out or come loose. Steel back is waterproof and surrounded by a mar-proof bumper. Handle is zinc plated inside and out. Features like these make Speed Wash the quality brush of the trucking industry, preferred by thousands of the nation's biggest fleet operators. You'll like Speed Wash, too. Order yours today.

PRICES EITHER STYLE				
Complete	IN LOTS OF:			
with 5 ft.	1	6	12	24
handle	\$12.45	\$11.65	\$10.90	\$10.15

MILWAUKEE DUSTLESS BRUSH CO.
530 North 22nd St., Milwaukee, Wis.

Please ship the following:

Quan.	No.	Item	Price
	240	OBLONG SPEEDWASH	
	250	ROUND SPEEDWASH	

NAME

ADDRESS

CITY

STATE



No. 250 Round
Ideal for small
trucks, passenger
cars.

Manufacturers' Literature

(See page 88 for Fleetman's Library)

Custom House Guide has just produced its 1688-page 1956 edition. It lists complete customs regulations, regulations on marking of imports as well as complete tariff rates. Copies are \$25 each, and complete information may be obtained from Custom House Guide, Box 7, Station P, Custom House, New York 4, N. Y.

Parts storage shelving, including a variety of combineable units, as made by Hollowell Division, Standard Pressed Steel Co., is described in a new catalog you can get by circling L 5 on the postcard on page 84.

Shop presses from 25 to 150-ton capacity, arbor presses, mobile floor cranes and mobile floor trestles are covered in a new catalog from Manley Division, American Chain & Cable Co. Circle L 6 on the postcard for your free copy.

Parts storage shelving in a wide variety of styles and combineable units are illustrated in this new folder from Frick-Gallagher Mfg. Co. Circle L 7 on the postcard for your free copy.

Hand cleaners—10 different types—are described in this new folder from Sugar Beet Products Co. Circle L 8 on the postcard, get your free copy.

Mineral floor absorbent has 75 industrial uses according to this new brochure from Speedi-Dri Corp. Circle (TURN TO PAGE 194, PLEASE)

Olson Ups Cube



J. B. E. Olson Corp. announces a line of higher volume aluminum bodies for forward control chassis. Eight-foot model on 104-in. wheelbase now has 315 cu ft, 10-ft model on 122 or 125-in. wheelbase is now rated at 390 cu ft, and a new 12-ft body on 130 or 137-in. wheelbase offers 460 cu ft. They all feature cargo spaces up to 73 1/2 in. high.



SNAP-ON TOOLS CORPORATION
8026-G 28th AVE. KENOSHA, WIS.



you can
always
depend
on



CAMPBELL "TRACTION TWINS"

- **KWIK-ON CHAINS**
... for continuous driving, on the wheel in less than a minute
- **TRACTION KLIPS**
... for emergencies ... a sure start when you're stuck

CAMPBELL CHAIN COMPANY
YORK, PA. • W. BURLINGTON, IOWA
PORTLAND, ORE. • SACRAMENTO, CALIF.

CEMCO INDUSTRIES, INC. GALION, OHIO

A name that has meaning in the trucking industry

Manufacturers of: Trailer Jockeys, Fifth Wheel Cranes, Split-Shaft Power Take-offs, Hydraulic Dock Ramps, Mobile Machine Shops, Mobile Lubricating Units, Mobile Trailer-Weigh, Bulk Material Carriers.

WOLF'S HEAD HEAVY DUTY MOTOR OIL 100% PURE PENNSYLVANIA

Exceeds

EVERY REQUIREMENT
FOR HEAVY DUTY OIL





KEEP THEM ROLLING... AND EARNING

WITH NEW SERIES "1800"

HYPRESSURE

Jenny

STEAM CLEANER



Hypressure JENNY steam cleaning *before* servicing or repairs, cuts vehicle "down-time" almost in half by removing the grease, oil, muck and road dirt that slows mechanics down and runs up costs. That means double savings; less shop labor expense; shorter "lay-ups" and many more profitable road miles.

JENNY cleans *fast*, too! For example, one man with Hypressure JENNY can sanitize and deodorize a refrigerator truck body in less than an hour, a full 10 hours job by any other cleaning method. And there are scores of other jobs JENNY will do faster and better to keep your fleet rolling and earning.

Powerful, portable, Series "1800" Hypressure JENNY cleans anything . . . anywhere . . . starts instantly . . . is economical and easy to operate.

For complete details on how Hypressure JENNY can help *you* "get them out of the shop fast" and keep them rolling . . .

**NOTE THESE
EXCLUSIVE FEATURES**

- ▶ 180 Gallons An Hour Steam Cleaning Capacity
 - ▶ 480 Gallons An Hour Flushing and Rinsing Capacity (optional)
 - ▶ Automatic Electric Ignition
 - ▶ Instant Starting
 - ▶ 2 Cleaning Gun Operation
 - ▶ Nozzle Control
 - ▶ Contamination-proof Water System
 - ▶ Positive Displacement Pump
 - ▶ Asbesto-Steel Vapor Hose
- plus many others

MAIL THE COUPON TODAY! No obligation.

HYPRESSURE JENNY DIVISION

HOMESTEAD

VALVE MANUFACTURING COMPANY

"Serving Since 1892"

P.O. BOX 90, CORAOPOLIS, PA.


Please send me complete information on Hypressure JENNY Steam Cleaner.

Name _____ Title _____

Company _____

Address _____

City _____ State _____



**"THIS LUBRICANT
EXTENDED
BEARING LIFE
50%"**

—says REPUBLIC AVIATION CORP.
Makers of the famous F-84E THUNDERJET

"Under actual tests, LUBRIPLATE extended bearing life fifty per cent or better as compared to other lubricants. It was also found that, during test, LUBRIPLATE increased efficiency of machines twenty per cent by reducing friction loss. Republic has been using LUBRIPLATE successfully for the past eight years."

**REGARDLESS OF THE SIZE AND
TYPE OF YOUR MACHINERY,
LUBRIPLATE LUBRICANTS
WILL IMPROVE ITS OPERATION
AND REDUCE MAINTENANCE**

LUBRIPLATE LUBRICATION



**MAKES CARS
AND TRUCKS
RUN BETTER
AND LAST
LONGER**

LUBRIPLATE H.D.S.
MOTOR OIL... THE OIL
THAT NEEDS NO
ADDITIVES

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" ... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



Manufacturers' Literature

Continued from Page 192

L 9 on the postcard on page 84, see how many apply to your fleet shop.

Meters for tank trucks, gasoline delivery and other fleet uses are described in this new bulletin from A.O. Smith Corp. For your free copy, circle L 10 on the postcard.

Lift gate applications to save money are illustrated and reported on in this new booklet from Gar Wood Industries, Inc. To learn how you can save with a lift gate, circle L 11 on the postcard.

Metal working tools — including punches, shears, presses, brakes, etc. — made by Whitney Metal Tool Co. may come in handy in your fleet shop. Circle L 12 for Whitney's new 1956 catalog to see what you can use.

Automatic transmission overhaul kits are described in a new catalog available from Raybestos Division, Raybestos - Manhattan, Inc. Included are kits for Hydra-Matic, Powerglide, Powerflite, Dynaflo, Ford-O-Matic and Merc-O-Matic. Circle L 13 on the postcard on page 84 for your free copy.

Paint and lube pumps are briefly described in this new folder from M&E Mfg. Co. Circle L 14 for your free copy.

Tank truck bodies made by Heil Corp. for hauling chemicals and liquid foods are described in this new 4-page folder you can get by circling L 15 on the postcard on page 84.

Service tools made by Miller Mfg. Co. for Dodge trucks, Chrysler, Imperial and Plymouth cars are described in this 146-page catalog you can get by circling L 16 on the postcard.

Tubeless tire wheels as made by Motor Wheel Corp. are covered in this new booklet that also includes a complete description of the advantages of tubeless tire operation. For a free copy, circle L 17.

Trash compaction body with detachable side loading containers are described and illustrated in this new folder just published by TrashTainer Sales, Inc. Circle L 18 on the postcard on page 84 for your free copy.

END

Please Resume Reading Page 90

Change Truck Tires EASIER with JOB-DESIGNED **KEN-TOOL** QUALITY BEAD LOOSENERS

Free frozen beads quickly with exclusive Ken-Tool Bead Looseners. They provide greater leverage ... loosen the most stubborn truck tire beads quickly, easily.



SEE YOUR JOBBER on the complete line of Job-Designed Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.



W. G. B. makes OIL FILTERS

from
**60 to 750 Cu. In.
Capacity**

...and Cartridges for
all makes of Filters.



Write for Details

W. G. B. OIL CLARIFIER, INC.
First By Test Since 1931 KINGSTON, N. Y.

**MOTOR TRUCKS
CRANE CARRIERS
CUSTOM BUILT CHASSIS
GENERATOR SETS**

WARNER & SWASEY CO.

DUPLIX

DIVISION
LANSING, MICHIGAN

TRICKS OF THE TRADE *from* PERMATEX



Patching Blown Head Gaskets. For emergency repairs, cut a piece from another gasket to match the blown spot and coat generously with Form-A-Gasket No. 1. Then simply fit into place and reassemble.



Water Pump Seal. When replacing a water pump, apply a thin coat of Form-A-Gasket No. 2 to both sides of the flange gasket. You'll have a positive seal—no anti-freeze seepage—and the pump will be easy to remove next time you have to take it off.

FORM-A-GASKET®

Universal Sealing Compounds
LEAK-PROOF • PRESSURE-TIGHT

Check tips like these for new ways you can use Form-A-Gasket, best sealant going for leakproof, pressure-tight assemblies. Form-A-Gasket resists gasoline, water, hot or cold oil, gases, and many other fluids. And it's specially made to withstand the pressures of high-compression engines.

Every Shop Needs All 3 Types



No. 1. Sets quickly
—dries hard

No. 2. Sets slowly
—remains pliable

No. 3. Brushable
liquid—remains tacky

Hundreds of uses around the house, too



Installing New Muffler. Rust on the end of the exhaust pipe and the tailpipe sometimes makes it difficult to install a new muffler. Apply Form-A-Gasket No. 3 to the ends of both pipes, and the assembly will be easy—and stay tight.

PERMATEX COMPANY, INC.

Brooklyn 35, N.Y. • Kansas City 15, Kans.

More than 50 Chemical Products for Better Automotive Maintenance

July News Roundup

Continued from Page 96

and becoming curator of the Transportation Library there, Dr. Worley had a long and illustrious career designing and constructing many important public works. He also served as a member of the Engineering Board of the Interstate Commerce Commission in charge of valuation of the railroads, and acted as a consultant for

railways, bus lines, highway departments, municipalities, and branches of the armed forces. In 1935, Fruehauf Trailer Co., retained Dr. Worley in an advisory capacity and from this rela-

tionship, which continued until his death, sprang many of his outstanding contributions to the progress of the motor transport industry.

1956 Domestic Truck Factory Sales by GVW

	5,000 lb. and less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January.....	38,771	12,978	2,896	15,309	3,299	4,658	5,851	83,752
February.....	37,350	14,123	3,139	14,443	4,326	4,364	6,007	83,752
March.....	36,396	14,973	3,397	14,541	5,528	5,250	6,911	86,988
April.....	32,777	14,758	3,240	14,385	5,251	4,950	7,039	82,400
Total—Three Months 1956.....	145,294	56,832	12,672	58,678	18,394	19,222	25,808	336,900
Total—Three Months 1955.....	161,769	63,771	13,306	54,837	12,583	11,530	17,518	329,436

Source: Automobile Manufacturers Assn.

1956 Truck Trailer Shipments

	April	Four Months
Vans:		
Insulated and refrigerated.....	570	1,912
Steel.....	115	345
Aluminum.....	464	1,567
Furniture.....	187	750
Steel.....	180	681
Aluminum.....	7	69
All other closer-top.....	2,487	8,748
Steel.....	1,086	3,614
Aluminum.....	1,391	4,834
Open-top.....	267	947
Steel.....	106	392
Aluminum.....	161	555
Total—Vans.....	3,520	12,357
Tanks:		
Petroleum.....	425	1,619
All other.....	148	358
Total—Tanks.....	573	1,977
Pole, pipe and logging:		
Single Axle.....	56	212
Tandem Axle.....	165	462
Total.....	221	674
Platforms:		
Racks, livestock, stake.....	70	251
Grain bodies.....	65	216
Flat, all types.....	793	3,091
Total—Platforms.....	928	3,558
Low-bed heavy haulers.....	350	1,173
Dump trailers.....	173	569
All other trailers.....	319	1,181
Total—Complete Trailers.....	6,084	21,489
Chassis.....	353	1,097
Total—Trailers and Chassis.....	6,437	22,586

Source: Industry Division, Bureau of the Census.

*light as a feather
... strong as an ox!*



THE NEW TULSA® POWER TAKE-OFF

SINGLE SPEED • MEDIUM DUTY

Extremely light... you can hold it in the palm of your hand... because the NEW TULSA Power Take-Off has a die-cast aluminum housing which at the same time gives all the ruggedness and durability for which the TULSA line is famous around the world. Output shaft available in three sizes—13/16", 7/8" and 15/16"—and rotates on two needle bearings. Furnished with either cable or lever control to suit individual operators' requirements. Designed and built for the full range of medium duty work, this new power take-off offers the extra advantage of low price, nationwide distribution and service that have made the TULSA line a favorite everywhere.

Tulsa Winch

TULSA, OKLAHOMA

DIVISION OF
VICKERS Inc.

AMONG THE STATES

New laws enacted by the various states recently include:

Illinois—New Commerce Commission order requires that after July 1, 1956, all interstate and intrastate for-hire motor carriers operating in the state must file a copy of their certificate, permit, or registration with the commission. Copies of the document (photograph, photostat, or a printed, mimeographed, or otherwise legibly (TURN TO PAGE 198, PLEASE)



CANVAS-BACKED CARRIER — Lashing winds and overhanging branches are everyday hazards on practically any long-distance trucking haul. Constant whipping of covers back and forth against cross members frequently results in pin-holes difficult to repair. Ziffrin Truck Lines, operating over 200 trucks, equip most of their sixty open-topped trailers with covers like these made of Mount Vernon duck and fabricated by Hoosier Tarpaulin Company of Indianapolis.

This is another example of how Mount Vernon Mills, Inc., and the industries they serve, are serving America. Mount Vernon engineers and its laboratory facilities are available to help you in the development of any new industrial fabric or in the application of those already available.

UNIFORMITY
Makes The
Big Difference
In Industrial
Fabrics



Mount Vernon Mills, Inc.
A LEADER IN INDUSTRIAL TEXTILES

TURNER HALSEY
COMPANY
Selling Agents

Main Office: 40 Worth Street, New York, N. Y.
Branch Offices: Chicago • Atlanta • Baltimore • Boston • Los Angeles

July News Roundup

Continued from Page 196

reproduced statement) must also be carried in each truck or power unit of combinations operating in the state.

Kansas—New order by the state's Corporation Commission sets a mileage tax on operators of out-of-state trucks entering the state on occasional trips if they are not operating under KCC authority and have no Kansas

permits but are qualified under law on a special permit. Fees are to be paid at the port of entry, at the rate of 3¢ per loaded mile, with a minimum of 50¢ and a maximum of \$2.50 per trip. Special permits are available for "irregular operators," whose equipment makes not more than six trips into the state in any one month, nor more than 30 trips in any period of six consecutive calendar months.

New Jersey—Amendment to the motor vehicle code Sec. 39-3-54 pro-

vides for the use of simultaneously flashing signal lamps on motor vehicles to warn oncoming traffic of the presence of a disabled vehicle on the road.

Pennsylvania—New legislation recently approved; provides for registration of buses, trucks and trailers on a gross weight instead of chassis weight basis; sets new fees ranging from \$16.50 at 5000 lb to \$360 at 60,000 lb for pneumatic-tired trucks; defines net brake horsepower; requires that service brakes on commercial vehicles have one square inch of braking surface for each 55 lb of vehicle gross weight; sets a minimum engine capacity for commercial vehicles at a ratio of not less than one brake horsepower per 450 lb of maximum gross weight but not less than 50 bhp; amends weight limits to remove reference to chassis weight; provides that provisions become effective as to all new vehicles originally titled after Jan. 1, 1957 (H. 2087). Speed limits for trucks and vehicle combinations have been set at 50 mph on four lane highways and 40 mph on those with fewer lanes (H. 1735).

On Fire Trucks EberHARDWARE

No. 4886 Paddle Handle Recessed Door Lock. Slam action, 2 point engagement, stainless steel springs.

No. 4879 Paddle Handle Recessed Door Lock. Slam action, single point engagement.



BODY MFGD. BY P. E. VAN PELT INC.
OAKDALE, CALIFORNIA

Representing just about the "last word" in modern fire trucks, this fine example of design and craftsmanship incorporates 3 standard (E) items to a decided advantage.

No. 5551 Lock Handle. Stainless steel, non-key locking.

On Service Trucks EberHARDWARE

No. 4884 Paddle Handle Recessed Door Lock. Slam action, 2 point key locking. Rights and lefts. Right hand shown.

No. 4881 Paddle Handle Recessed Door lock. Slam action, single point engagement. In pairs right or left. Right shown. Key locking.



BODY MFGD. BY
KLEIN BODY CO. CLEVELAND, OHIO

This #2090 General Service Body made for the Ohio Edison Co. is an outstanding example of smooth, functional design, incorporating 2 each of 2 standard (E) items.

EBERHARD MANUFACTURING COMPANY

EVARTS AVE. • CLEVELAND 4, OHIO • Division of the Eastern Malleable Iron Company

LONGRUN



TRUCK BODY
HARDWARE BY

EBERHARD

THE MOST COMPLETE LINE AVAILABLE



SAFETY AWARDS

Greater Detroit Safety Council—to The Geo. F. Alger Co., winner of the Council's Inter-fleet safety certificate.

Lee Transportation Co., Moline, Ill.—to six city drivers, plus a safety trophy to the Moline terminal manager, T. D. Peets, Jr.

Associated Truck Lines, Grand Rapids, Mich.—to 135 drivers with no-accident records totaling 39 million miles and 178 years, including three men with 17-year accident-free records.

Rooks Transfer Lines, Holland, Mich.—to 20 drivers.

Weber Moving & Storage, Baltimore, Md.—to 12 drivers with accident-free records of from 1 to 16 years.

Boss Linco Lines, Buffalo, N. Y.—to drivers at the Buffalo terminal who set an accident rate of 1.4 while covering some two million miles last year.
(TURN TO PAGE 200, PLEASE)

**ARE
TIRE COSTS
TAKING
YOU
FOR A
RIDE?**



Then it's time to switch to DUNLOP TRUCK TIRES

Whether your fleet is large or small—your operation on the road or off—Dunlop Super Gold Cup Truck Tires will keep your trucks rolling, reduce your costs-per-mile. Here's why:

Dunlop's exclusive Tension Free Construction eliminates uneven distribution of internal stresses, cuts internal temperatures 10° or more. Original tread mileage is increased up to 34%.

Dunlop's wider, flatter, huskier tread helps equalize load distribution even more. This means better performance, longer tire life.

Dunlop's full nylon or high tenacity rayon construction practically eliminates growth problems, gives you maximum recap recovery.

If you want better performance, longer tire life, lower costs-per-mile—it will pay you to put Dunlop Super Gold Cup Tires on your trucks.

DUNLOP TIRE AND RUBBER CORPORATION

Factory and Executive Offices: Buffalo 5, N. Y.

Dunlop—Founders of the Pneumatic Tire Industry



**DUNLOP
SUPER GOLD CUP
HIGHWAY TRUCK TIRE**

An all-wheel tire for all high-speed heavy load hauls.



**DUNLOP
SUPER GOLD CUP
EXTRA MILEAGE
HIGHWAY TRUCK TIRE**

A performance-plus tire for top-speed, top-load, long distance hauls... at lowest cost per mile.



**DUNLOP
SUPER GOLD CUP
EXTRA MILEAGE
TRAKGRIP TRUCK TIRE**
A heavy duty tire for the roughest, toughest on-and-off the road service.

**ENJOY MORE
ORIGINAL TREAD
MILEAGE,
GREATER RECAP
RECOVERY
WITH**

**DUNLOP
TRUCK TIRES**

July News Roundup

Continued from Page 198

Suwak Trucking Co., Washington, Pa.—to 43 drivers with a combined total of more than 4½ million accident-free miles.

Niagara Frontier Transit System, Buffalo, N. Y.—to 462 drivers with five years or more of accident-free driving. Over 93 per cent of all NFT

bus operators have earned the company's award for at least one year of accident-free driving.

Western Express Co., Cleveland, Ohio—to 35 drivers with up to 20 accident-free years among them. During 1955 the company's accident frequency was cut to half of the national average for the industry.

Austgen Express & Storage, Chicago Heights, Ill.—to 19 local and long-distance drivers. Leading driver, with 15 years of safe driving to his

credit, was awarded a week's stay at a lake in northern Wisconsin.

Transportation Corp. of Indiana, Cincinnati, Ohio—to 53 local and over-the-road drivers and to 30 other employees who received "Helpers Award" pins for their contribution to drivers' accident-free records and for outstanding performance of their duties.

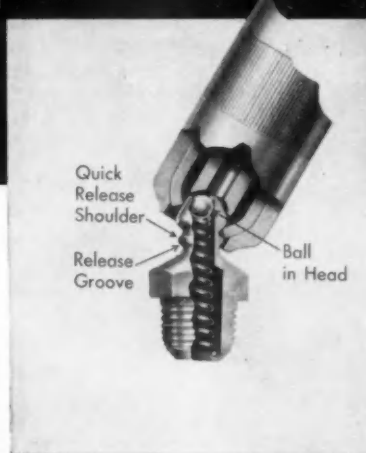
Cooper-Jarrett, Kansas City, Mo.—to 60 local drivers for no-accident driving in the metropolitan areas of Philadelphia, Trenton and New York City, including 13 with five-year safety records.

UNIVERSAL... For the best Lubrication Maintenance!



GREASE GUN

- Full 360° all-steel swivel coupler
- One squeeze for regular greasing
- Every additional squeeze builds up more pressure (up to 12,000 pounds) for stubborn jobs
- Unconditionally guaranteed for 1 year



BALL-IN-HEAD FITTING

Keeps dirt out, grease in. Patented design permits easy release—it will not leak!

Universal's engineered equipment can cut your maintenance costs and do a top-notch job too. No matter how tough your lubrication problems might be, Universal has the grease guns, fittings and accessories that will make the job easier and save valuable maintenance time.

For further information write for our new catalog.

UNIVERSAL LUBRICATING SYSTEMS, INC.

701 ALLEGHENY AVE., OAKMONT, PA.



FLEET NOTES

North American Van Lines, Inc. is adding 160 trailers and 36 replacement tractors to its fleet. Fruehauf Trailer Co. is producing 120 of the trailers and Kentucky Manufacturing Co. will make the rest.

Wilson Truck Co., Inc., Nashville, Tenn., is replacing its entire trailer fleet with 250 new Fruehauf Volume Vans.

Ryder System has purchased **Baker Truck Rental, Inc.,** Denver. The purchase adds 2,110 vehicles, 233 employees and 13 branches in Colorado, Kansas, Oklahoma, Texas and New Mexico to the Ryder Truck Rental System, making a total of 5,260 vehicles in 12 states.

Watson Bros. Transportation, Inc., Omaha, Neb., has added seven new safety patrol cars to its accident prevention fleet. All bear the company insignia for easy identification by drivers.

Pacific Intermountain Express, Oakland, Calif., has completed its merger with West Coast Fast Freight, now has more than 4000 employees, 2800 pieces of mobile equipment and approaches a gross revenue of \$50 million a year to rank as the nation's second largest motor highway carrier.

Johnson and Sons, Inc., Provo, Utah, has purchased eight new Kenworth trucks equipped with 250 hp turbo-charged diesel engines.

(TURN TO PAGE 202, PLEASE)

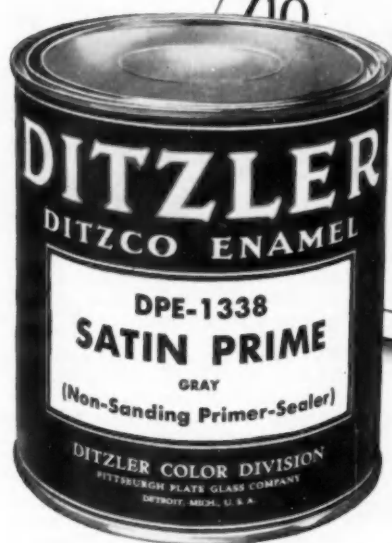
NEW!

Satin Prime

Flash Dries in 15 minutes!

... No sanding

... Apply finish coat immediately!



DITZLER now introduces new SATIN PRIME —DPE-1338. This new light gray non-sanding primer sealer is specially prepared to give faster and better results when repainting the attractive pastel colors on today's two-tone motorcars and trucks.

- By reducing with Ditzler's DTE-101 or DTE-202 for spraying, new SATIN PRIME can be applied in a one wet coat film. It covers equally well over bare metal or properly

prepared old lacquer or enamel. A thin coat gives you all the advantages plus a better finish than a heavy coat. No sanding required.

- New SATIN PRIME flash dries in 15 minutes. Lacquer or enamel may be applied immediately after flash drying so that primer sealer and color coat dry down thoroughly together. You'll find SATIN PRIME gives you better holdout and adhesion than any other similar product you've ever tried.

Ditzler's FERROCHROME PRIMER DPE-1202 Inhibits Rust!

- Besides new SATIN PRIME, Ditzler also makes available its popular FERROCHROME PRIMER, DPE-1202 specifically formulated for industrial and fleet use. This is a red oxide non-sanding primer. In addition to all the excellent properties to be found in new SATIN PRIME, DPE-1338, this FERROCHROME PRIMER is a highly effective rust inhibitor.



DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan



DITZLER

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



J-M sealing compounds

*Seal
joints quickly, easily
and permanently*

Johns-Manville Body Sealers are permanently plastic synthetic resin compounds developed for sealing bolt fastened joints against the passage of air, dust, and moisture. They are *highly adhesive, will not skin or harden, will not corrode metals and other surfaces, and can be painted after application.* Stable under a wide temperature range, they have excellent aging characteristics.

Available in these two types:

J-M Type A Body Sealer, of relatively soft, knife-grade consistency. Supplied in 1½" and 3" dia. pugs, extruded beads (min. diameter ¼") and ribbons (min. thickness ⅛"). Recommended for use in bulk form, this body sealer can be readily extruded on the job.

J-M Type B Body Sealer, of heavier, knife-grade consistency. Supplied in 1½" and 3" dia. pugs, in beads (⅜" dia. up), and ribbons ⅜" up. Supplied packed in flat strips or multiple and single strand reels.

Johns-Manville Body Sealers are supplied in a variety of packages for time saving application. For Sheet EL-67A and Chart EL-72A write Johns-Manville, Box 60, New York 16, N. Y. In Canada, Port Credit, Ontario.

Johns-Manville SEALING COMPOUNDS



July News Roundup

Continued from Page 200

Consolidated Freightways, Portland, Ore., has awarded \$500 scholarships to 14 students in the 11-state area it serves, and grants-in-aid of \$250 each to non tax-supported colleges chosen by the winners.

T.I.M.E., Inc., won an award from ATA's Customer Relations Council for the best direct mail piece issued during the past year.

Pacific Intermountain Express, Oakland, Cal., made its first award under (TURN TO PAGE 204, PLEASE)

Classified Advertisement

DOUBLE YOUR BUSINESS with inexpensive Newspaper Classifieds! Clever business stimulators! Tiny ads—big payoff! Free trial. Simon, Box 87—CCJ1, Pelham, N. Y.

There are now
120
Water Pumps
in
our line

Wohlert
Incorporated
LANSING 5 MICHIGAN

KINNEAR STEEL ROLLING DOORS

Most of the world's goods pass through one or more Kinnear Rolling Doors before reaching their destination.



KINNEAR
ROLLING DOORS

The KINNEAR Mfg. Co. 2100-20 Fields Ave. Columbus 16, Ohio

FRINK
SNO-PLOWS
MADE IN U.S.A. PAT. OFF.

Both "V" TYPE and
ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ to 18 TONS

FRINK SNO-PLOWS, INC., CLAYTON, 1000 IN., N. Y.
FRINK SNO-PLOWS OF CAN. LTD., TORONTO, ONT.



230,000
maintenance-
free
miles!

DE CAMP BUS LINES breaks all records with TELEFLEX® Tachograph linkage

More than 230,000 rugged tachograph miles have been logged by a 45-foot, one-piece Teleflex Tachograph cable on a bus belonging to De Camp Bus Lines, Clifton, New Jersey. Together with four other buses from the fleet, De Camp has experienced more than a million miles from its Teleflex Tachograph Linkages—without cable failure, repair, lubrication, or other maintenance. And all are still going strong!

You can have the same results—for truck fleet, or bus fleet operations. Teleflex is a high-strength cable uniquely designed to tackle successfully the problem of downtime due to cable failure. Operating in its own precision-made flexible or rigid and flexible conduit, Teleflex gives you the service you expect from your Tachographs. When they're Teleflex equipped—your Tachographs are *always* on the job, making fleet operations more economical, safer, and more efficient.

REMEMBER! Your next Tachograph cable replacement can be the last—if you replace with Teleflex!

FOR DETAILS OF TELEFLEX TACHOGRAPH INSTALLATIONS—

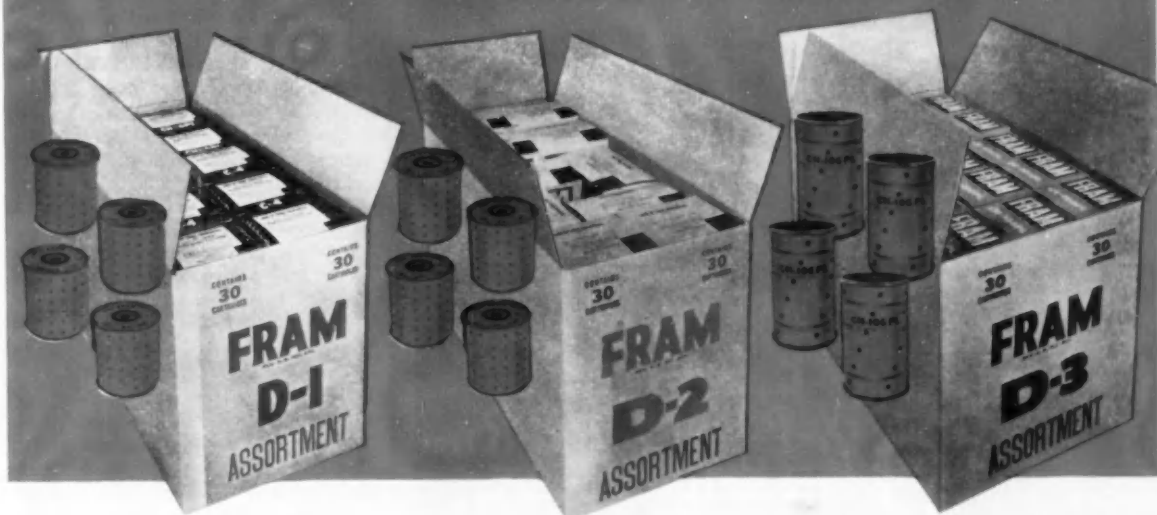
WRITE for the Tachograph linkage bulletin; Teleflex Incorporated, 125 S. Main Street, North Wales 2, Pa.

TELEFLEX
MECHANICAL CONTROLS
LINKAGES MECHANISMS

NOW...3 FRAM DEALS!

4 FREE CARTRIDGES

with EACH ASSORTMENT



D-1 **Ford, Lincoln, Mercury**
Contains 30 cartridges for Ford, Lincoln and Mercury: 18 C-4 Cartridges; 12 CH-6PL Cartridges. You pay for only 26—get 4 C-4 Cartridges free!

D-2 **Chevrolet**
Contains 30 cartridges for Chevrolets: 12 C-4 Cartridges; 6 C-21 Cartridges; 12 CH-107 Cartridges. You pay for only 26—get 4 C-4 Cartridges free!

D-3 **Buick, Oldsmobile, Pontiac**
Contains 30 cartridges for Buick, Oldsmobile, Pontiac: 30 CH-106PL Cartridges. You pay for only 26—get 4 CH-106PL Cartridges free!

Get in on the 2nd Section
FRAM Giant
\$110,000.00 Contest



Win a new FRAM-equipped car . . .
plus
hundreds of
other prizes!

Hundreds of dealers, wholesaler salesmen and fleet operators won in the first section—make sure you win your share now. All you do is estimate the number of filters FRAM will ship to manufacturers during the periods named on your entry blank. See your entry blanks for winning hints!

3 terrific deals! Pay for only 26 and get 4 FRAM Cartridges free . . . you can't go wrong on a good deal like that! See your FRAM Salesman right away—order plenty of FRAM!

FRAM CORPORATION, Providence 16, R.I. Fram Canada Ltd., Stratford, Ontario

July News Roundup

Continued from Page 202

an annual scholarship program recently established at the University of Oregon. Winner was William D. Walters, Ashland, Ore., a senior majoring in traffic and transportation. The award is one of ten offered by P-I-E at colleges and universities that have courses in transportation.

Los Angeles-Seattle Motor Express

is building a new \$400,000 maintenance shop in Seattle. Features will include radiant heating, an electric monorail system, two 70-foot inspection pits, drive-through automatic washer and carbon tetrachloride degreasing installation.

First scholarships to be awarded for the Motor Transport Management Course at Tri-State College, Angola, Ind., have been presented by Expressways, Inc., Angola. A total of 106 scholarships, each for \$500 are available at the college.



Plans to merge National Motor Bearing Co. with Federal-Mogul-Bower Bearings, Inc., have been approved by directors of both companies, will be submitted to stockholders for approval at meetings scheduled for this month.

Diamond T Motor Car Co. now uses a helicopter to link its plant with air ports, the loop area and plant heliports in the Chicago metropolitan area. The 'copter whisks customers, visitors and emergency parts shipments to and from Diamond T's headquarters.

Hodges White Truck Co. is the new name for the White and Autocar truck distributor in Wichita Falls, Texas. The company was formerly Faith City White Truck Co.

Four Wheel Drive Auto Co. has added five new sales, parts and service distributors to its field organization. They are: Choate Equipment Co., Cedar Rapids, Iowa; Gulf Coast Truck Equipment Co., Houston, Texas; Pashkow Motors, Monticello, N. Y.; Wakeman Corp., Lakeland, Fla.; and Standard Equipment & Supply Co., North Little Rock, Ark.

International Harvester Co. has opened its second new truck sales and service branch in Richmond, Va. Manager is R. E. Porter, and G. E. Taylor is service manager.

(TURN TO PAGE 206, PLEASE)

**Higher Speeds...
Quicker Stops...
Hotter Drums...**

**MANY 1956 CARS
ARE EQUIPPED
WITH EXPANDERS**

they all call for
"E" Series
E-X-P-A-N-D-E-R Type
WHEEL CYLINDER CUPS
MADE OF A NEW, HEAT-RESISTING COMPOUND

- Low temperature flexibility to 50° F below zero!
- Tougher for better wear!
- Balanced springs!
- Expanders are centralized!

EIS "E" Series WHEEL CYLINDER CUPS are available for all cars. They stand up better and that makes them a "must" for today's high-speed operation!

**For Chrysler Product cars...
RIBBED CUPS are included in
the EIS CA-P Kit as well as
in EIS Wheel Cylinders.**

**1956 Chrysler and De Soto use
plain cups and expanders. They
are available in the new "E"
Series Kits now.**

1956 Plymouth and Dodge still use old type construction (ribbed cup).



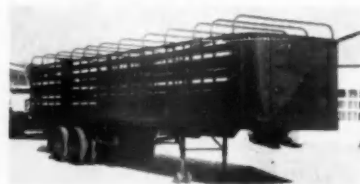
**New CHANGE-OVER KITS for Ford,
Chevrolet, GMC and other trucks.
Replaces "U" Ring Type Cup in-
stallations.**

**NEW 1956 CATALOG JUST
OFF THE PRESS!
Write today!**


EIS AUTOMOTIVE CORP., MIDDLETOWN, CONN.



For Hauling Fat Livestock



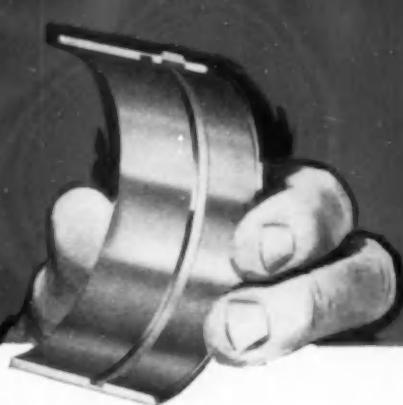
American Body and Trailer, Oklahoma City, Okla., announces that its standard platform series semi-trailers including grain and livestock models have been redesigned into high volume units. Interior width is 94 3/4 in., with 18 in. front corner radius. Inside width is accomplished using a formed side rail and enclosed stake pocket.



My Choice?

Monmouth^{*}

BEARINGS!



Many repairmen, for example in fleet operations, have a chance to keep tabs on engine behavior and maintenance needs over an extended time. And those men who *know* Monmouth bearings, know by experience that they can't be topped today for easy, precision fit . . . and, most important, for prolonged performance!

You can put the satisfaction and performance of Monmouth Micro^{*} or Clevite^{*} 77 bearings into virtually any car, truck, bus or tractor that needs bearing replacement. It's the most complete line of active bearings. Available from N.A.P.A. jobbers coast to coast.

*The words Monmouth, Clevite and Micro are registered trade marks of Clevite Corporation.

Monmouth

TRADE MARK

ENGINE BEARINGS

Clevite Service
The Cleveland Graphite Bronze Co.
Division of Clevite Corporation, Cleveland, Ohio, U. S. A.



*Your
NAPA Jobber
is a Good Man
to Know!*

July News Roundup

Continued from Page 204

Agreement on plans for Gemmer Manufacturing Co., Detroit, to merge with Ross Gear and Tool Co., Inc., Lafayette, Ind., has been reached by the companies' directors subject to stockholder approval. If plans go through, Gemmer operations in Detroit will continue as a division of Ross Gear, under present management.



... Lloyd W. Moore, Southern division service manager at Atlanta, Ga., for Mack Trucks, Inc. He'll be assisted by James A. Gullion. New branch service managers for Mack include W. P. Bernard, at Richmond, Va., and Stanley T. Smith, at Pittsburgh, Pa.

... Robert D. Thomas, manager, Tire Sales department, The Firestone Tire & Rubber Co., Akron, Ohio.



... Howard P. Strother and Fred H. Ragan, branch managers at San Francisco and Los Angeles, respectively, for White Motor Co.



... Clarence A. Jarosz, general service manager, Bendix - Westinghouse Automotive Air Brake Co., Elyria, Ohio.

... Arthur D. Optenberg, midwestern regional manager for Highway Trailer Co., Edgerton, Wis.



... Robert W. Tackbary, general manager of TrucTrain activities, Pennsylvania Railroad.

... Walter R. Pavela, district director of fleet sales for Fruehauf Trailer Co. in northern California, Nevada, Utah and Idaho.



... K. L. Parmelee, assistant manager of Seiberling Rubber Co.'s mileage sales department, Akron, Ohio.

... Calvin A. Davis, Copco Trailers' sales representative for the Metropolitan New York Area.

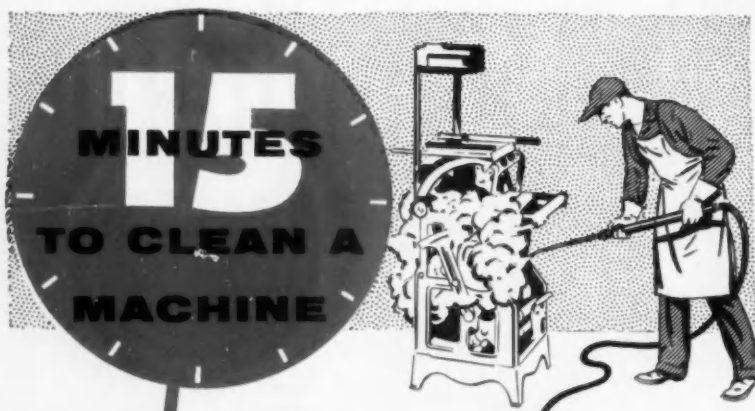
... Philip D. Moulton, vice-president and general sales manager, Van Norman Automotive Equipment.



... Glenn A. Walsh, assistant Hoist & Body sales manager, Gar Wood Industries, Inc., Wayne, Mich.

END

Please Resume Reading Page 98



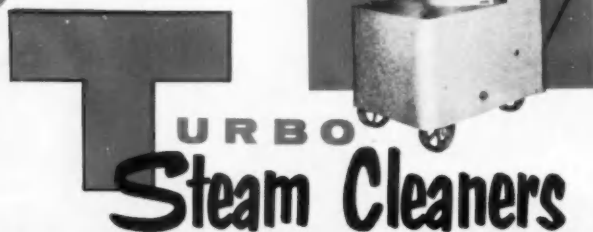
It used to take half a day

Cleaning two single-unit knitting machines used to be a full day's work at a hosiery mill. Now, with a Turbo Steam Cleaner, the same mill cleans 4 to 5 machines an hour ... gets rid of congealed oil, grease, size, lint and dirt ... reduces knitting machine service needs.

With a Turbo Steam Cleaner — either oil-fired or electric — grease and grime vanish faster, more thoroughly than with any hand-cleaning method. You get steam from cold water in less than a minute, save up to 20% on fuel consumption over conventional steam cleaners. For every industrial, automotive, farm or institutional cleaning need.

Send today for fully illustrated folder, with details and specifications. Address Dept. CC-7.

WITH



TURBO MACHINE COMPANY • LANSDALE, PA.



NYLON CORD TRUCK TIRES SAVE YOU MONEY 5 WAYS

1. NYLON MEANS MORE RETREADS. Because their casings are tougher, nylon cord tires can be retreaded again and again. And every retread stretches your tire dollars . . . brings down costs per mile.

2. NYLON MEANS FEWER ROAD DELAYS. Dependable nylon cord tires help you maintain strict schedules and on-time deliveries, save drivers' time and service costs.

3. NYLON MEANS MORE OVER-ALL MILEAGE. Tough nylon cords cut down tire failures, give you higher average tire mileage. Nylon virtually eliminates cord failures from flexing, moisture, heat and impact.

4. NYLON MEANS SAVINGS ON TIRE REPAIRS. By guarding against every major cause of tire failure—flexing, moisture, heat and impact—nylon cords save you service charges and tire-repair costs.

5. NYLON MEANS LESS TIRE INVENTORY. With nylon, you can reduce your tire reserve . . . free your capital for other business needs. Fewer failures and more mileage per tire mean you need fewer spares on hand . . . fewer tires per year.

NYLON CAN CUT YOUR YEARLY TIRE COSTS. You'll get more miles per dollar, more profit per load . . . when your trucks roll on nylon cord tires. Ask your dealer about nylon cord tires today. Du Pont makes the tough, long-lasting yarns that are used by rubber companies to make the tires that give extra protection against tire failure. Du Pont does not make tires.



BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY



NOW, IN PASSENGER-CAR TIRES, TOO . . . THE STRENGTH AND TOUGHNESS OF NYLON . . . FOR UTMOST SAFETY, SUREST PROTECTION AGAINST TIRE TROUBLE

**Every Auto, Truck,
Tractor Needs..**



FILT-O-REG®

**FUEL PRESSURE REGULATOR
& FUEL FILTER**

U. S. PAT. NO. 2,707,051

FILT-O-REG cuts fuel waste, prevents stalling, stops flooding. It feeds the full and correct amount of filtered fuel to the carburetor at minimum pressure under any load, at all speeds and extreme weather temperatures. Guaranteed to exert a maximum of 2 lbs. P.S.I. constant fuel pressure on the carburetor float valve and seat. This provides the proper float level under all driving conditions. **FILT-O-REG** fits in the fuel line between the fuel pump and the carburetor. Factory set...no adjustment is ever necessary.

Complete Satisfaction Guaranteed

SOLD ONLY THROUGH AUTOMOTIVE JOBBERS

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MOTORITE DIESEL COMPRESSION TESTER



Indispensable for servicing buses, trucks, farm tractors, contractors' machinery, drilling rigs and other mobile Diesel-powered equipment.

Connection of MOTORITE to engine is by means of interchangeable adapters replacing the fuel injector in the cylinder. "Universal" adapter illustrated at left is adjustable for use on more than 100 popular makes and models of Diesels. Additional adapters are available from stock for all Diesel engines listed at right. For other Diesel engines special adapters are made to order.

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Key to
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☐ Send me FREE copy of your Service Manual Bul. 692
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DCT-17

GMC Announces Light 4x4's

GMC TRUCK & Coach Division, General Motors Corp., announces six basic models, including pickups, panels, suburban-station wagons and stake trucks in the 1/2 through 1-ton weight range, with four-wheel-drive as regular factory-installed production option.

They are available with 130-hp, 270-cu in., 6-cyl gaso-line engines or 180-hp, 316-cu in. V-8's, and either 4-speed manual or "Hydra-Matic" transmissions.

They can be changed between 2-wheel and 4-wheel drive by shifting a single lever. The 4-wheel-drive shift lever, separate from the conventional gear shift, has both a high and a low position. The low is for worst possible driving conditions, the high for regular cross-country travel.

Gear Shifting

Regular gear shifting is used with both high and low 4-wheel-drive settings, giving the GMCs four forward speeds in each range and a total of eight forward speeds in 4-wheel drive. In vehicles with "Hydra-Matic" transmissions, the up and downshifts are automatic in each 4-wheel-drive setting, bringing unparalleled driving ease to this field.

Gross vehicle weights of the model 100, 150 and 250 units range from 5000 to 8800 lb. Rear axles go from 3300 to 7200 lb, front axles from 2200 to 3500 lb.

Ground clearance of the 4-wheel-drive GMCs is ample. Bottom of the transfer case is 14-in. or more above the ground. This transfer case is mounted in rubber to absorb shock and reduce body strain. Separate drive shafts power the front and the rear axles when all wheels are driving.

Other Features

Axle shafts equipped with universal joints send power from the front differential to the front wheels. Front and



rear gear assemblies are interchangeable, expediting repair work and eliminating drive-line "wind-up" by giving each axle identical ratios.

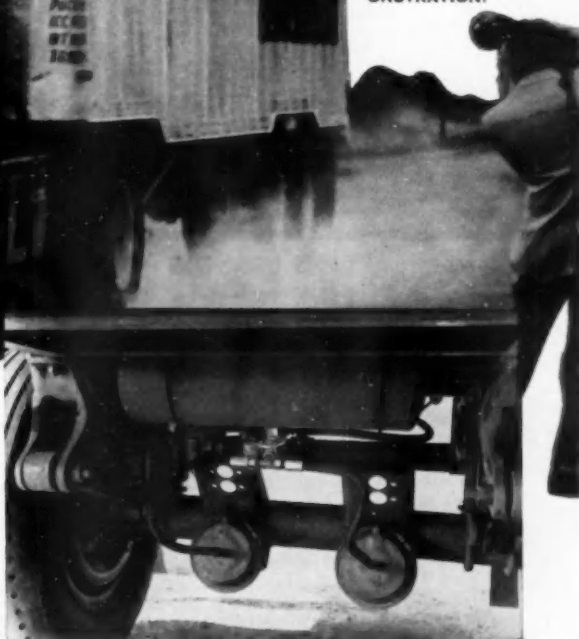
Other features of the GMC four-wheel drive include constant velocity steering joints and heavy-duty bearings and king pins in the driving-steering front axles. They also boast one-piece axle housings, big brakes, tubeless tires, 12-volt electrical systems, Kudu stabilizers, and foam rubber cushions.

**LOST: ALL SERVICE AIR: 60,000#
GROSS DOWNHILL AT 57 M. P. H. ON
WET BLACKTOP**



**STOPPED
IN
272
FEET**

ACTUAL PHOTOGRAPH
OF A CONTINENTAL
TRUCK COMING TO A
STOP DURING A DEM-
ONSTRATION.



SHOWS NEAT INSTALLATION OF EVERREADY
EMERGENCY AIR BRAKE SYSTEM ON A TRAILER.

Specify the EVERREADY Emergency Air Brake System

The "EVERREADY" Emergency Air Brake System is a new auxiliary brake circuit (patent pending) designed to permit quick braking action when tractor/trailer air supply fails or goes below a safe level. The "EVERREADY" System will automatically (or manually, if desired) activate the tractor and trailer air brake system . . . bringing the rig to a SMOOTH stop. An override switch is provided so the rig can be moved off the highway or out of an intersection.

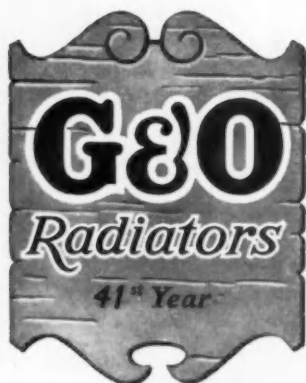
CERTAIN TERRITORIES STILL
AVAILABLE FOR EXCLUSIVE
MANUFACTURER'S REPRESENTATION.



WRITE FOR LITERATURE, PRICES, AND THE NAME OF YOUR NEAREST DISTRIBUTOR.

McKEE ENGINEERING CORPORATION
CORRY, PENNSYLVANIA

A complete, easy to install "package", ready to go on tractor and trailer units. Aircraft quality components are used throughout; no additional maintenance required.



They're Good

THE G & O MANUFACTURING CO.
NEW HAVEN CONNECTICUT



FREE!

NEW TIRE LOAD COMPUTER

PLUS GAS MILEAGE CALCULATOR
on reverse side

- instantly tells you correct inflation for any load
- covers over 40 truck tire sizes
- helps you add thousands of miles of use to your tires
- INCLUDES EASY REFERENCE GAS MILEAGE CALCULATOR

Save up to 20% on Premium Truck Tires

Over 15,000 of the nation's leading fleet operators save up to 20% on tires with our DIRECT-FROM-FACTORY buying plan. Premium-quality, factory-fresh, fully guaranteed...all types, sizes. Prices quoted at NO OBLIGATION. Offices and warehouses from coast-to-coast. **WE PAY ALL FREIGHT CHARGES.**

— SEND THIS COUPON TODAY! NO OBLIGATION! —

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NATIONAL FLEET SERVICE
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☐ Send me a free copy of the Tire Load Computer and Gas Mileage Calculator.

Name _____ Title _____

Type of Business _____ No. Vehicles _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

CCJ-1

FWD Builds 10,000-lb Tractor

FOUR WHEEL DRIVE Auto Co. announces its new Model No. T-646 tractor for over-the-road hauling. It weighs 10,495 lb including fifth wheel, 80 gal of gasoline, and all accessories. Weight is distributed 5265 lb on the front axle and 5230 on the rear tandem axles. Tractor length is 98 in. bumper-to-back-of-cab.

FWD's patented, power-proportioned four-wheel-drive and a 182-hp RD-450 gasoline engine are standard. Weight



saving is accomplished by such features as aluminum construction of two 40-gal fuel tanks, front bumper, and rear bogie saddle and walking beam assembly, the use of nylon high-pressure tubeless tires.

Transmission and Differential

The new tractor has a Fuller Model No. 5A-62 transmission with five forward speeds and one reverse. Forward kingpin location and greater kingpin loads are possible because of FWD's power-proportioning four-wheel-drive design, which distributes one-third of the engine power to the front axle and two-thirds to the rear axle of the tandem.

The center differential, which accomplishes this division of engine power, also fully compensates for unequal distances traveled by tractor wheels in turns and has a manual lockout to send equal power to all driving wheels if desired.



"We'll be right there at Waterloo with you, Mr. Napoleon, and haul you to camp after the victory!"

If it's worth
a good
Serviceman's
time . . .

it's worth a
good
spark plug
wire

Belden

SPARK PLUG WIRE

7799 Neoprene sheathed
for original equip-
ment performance.

7772 Stainless steel
strand, chromium
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7766 Transparent "Poly-
sil" for hot rods
and demonstration
models.

SPARK PLUG WIRE SETS

Timesaving, easy to in-
stall. INSULDRI and
standard sets for all cars.

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SINCE 1902
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SA-7

Battery Cables

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PAT. NO. 2446219

Write for FREE copy of Cooling System Service Manual and complete information.

RADIATOR SPECIALTY COMPANY

CHARLOTTE, NORTH CAROLINA
In Canada: Radiator Specialty Co., Ltd., Toronto



SOLDER SEAL

HARD-WORKING TRUCKS NEED EFFICIENT COOLING SYSTEM!

Internal Cooling System Pressure **MUST** be maintained. Leaks allow motors to overheat, waste coolant.

PRESSURE TESTER

A Precision Instrument, features safety relief valve, micro-honed barrel, nylon bushings.

LOCATES LEAKS ANYWHERE IN COOLING SYSTEM

Enables operator to find internal leaks . . . in minutes! Tests caps, hose, gaskets, radiators, heads, blocks, water pumps, etc. See it now . . . at your Solder Seal Jobber!

2128

SIoux

ELECTRIC IMPACT WRENCH

No. 325 \$99.75
No. 330 \$127.50

WITH THE EXCLUSIVE REVERSE CAP SWITCH LOCK. IT CAN'T BE REVERSED WITH THE SWITCH ON. IT LASTS LONGER.

ALBERTSON & CO., INC.
SIOUX CITY, IOWA, U. S. A.

'SAVE A LIFE'

with **THE THREE STAR SAFETY FLATER** and assure positive protection against exploding lock rings.

It is light, simple to use and fits all wheels and rims.



Send for free booklet.

JACK P. HENNESSY SALES CO.

12 DEPOT SQUARE • ENGLEWOOD, N. J.

YOUNGSTOWN STEEL CAR CORPORATION

NILES, OHIO

Large scale producers of . . . big weldments on a production basis—die pressed channels for bus, truck and trailer chassis—railway cars, repairs and parts—miscellaneous heavy presswork.

SAVE TIME • MONEY

Install **POWER TAKE-OFF DRIVE LINES**

WITH **MUNCIE "UNI-HANG" BEARINGS**

Sturdy construction—bronze bushings or cast iron bearings in all popular bore sizes. Completely adjustable brackets. Cadmium plated parts.

SHAFTING WITH KEYWAYS

Saves time—cut to length and install. Keys fitted— $\frac{3}{4}$ to $1\frac{1}{4}$ round—square and hex.

WRITE US FOR THE NAME OF YOUR NEAREST DISTRIBUTOR

MUNCIE PARTS MFG. CO.
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For your own Protection, RECOMMEND

The finest replacement cores made for passenger cars, busses, trucks, tractors and industrial equipment.

GUARANTEED

LAKE
CELLULAR-TUBULAR RADIATOR CORES

— And for easier, faster radiator repair service also use Lake Shop Tools and Supplies. Write for free Supply Catalog today!

Our New Core Catalog includes latest models.

LAKE AUTO RADIATOR
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BUY BONDS

"Saving Seconds is Important... Safety a 'Must'

**I get both with
CP Air-Wrenches"**

FRANK "REBEL" MUNDY,
Veteran Stock Car Driver,
Twice-Winner, AAA Championship Competitions

"Every second saved means money in the bank in the racing business. That's why my pit crew is equipped with CP Air Impact Wrenches. A pair of CP Tork-Kings, not only whips off and replaces both outside wheels in a bare 30 seconds but have *Controllable Power*... their built-in VARI-TORK impact clutch runs wheel lugs to exact, pre-determined tightness for extra safety on the track."

CP Air Impact Wrenches actually reduce nut running and removal time by 75%. And they pack power aplenty — more than enough to remove the most stubborn, rusted nut. Short length, lightweight, and an *Attachable Angle Head* for those hard-to-reach spots are other "plus" features that add to CP's time-saving virtues. Available in 1/2", 3/4" and 1" square drive capacities.



Chicago Pneumatic 8 East 44th Street, New York 17, N. Y.

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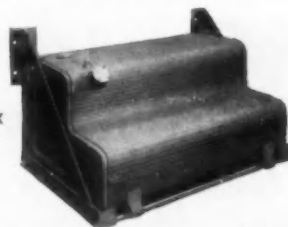
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Utilize that Wasted Space...

and by doing so increase your payload. The latest series of Snyder Safety Payload Tanks fit below the cab, eliminating the running board and thus utilize wasted space. Snyder's "Balanced Construction" insures lightweight, streamlined appearance and greater strength. All Snyder Safety Tanks are manufactured and tested to conform to Underwriters' Laboratories, Inc. and the Bureau of Motor Carriers of the I.C.C. specifications and carry a Factory Guarantee for one year.

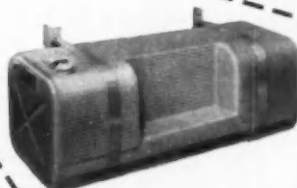
FULL STEP TANK
Capacity 30 to
70 Gallons



PAYLOAD TANK
CORNER STEP
Capacity 35 to 64
Gallons



CENTER STEP TANK
Capacity 38 to 70
Gallons



SNYDER SAFETY TANKS

SNYDER TANK CORPORATION

P.O. BOX 14, BUFFALO 5, N. Y. • P.O. BOX 3162, BIRMINGHAM 1, ALA.

ANOTHER famous fleet user of KEM® TRANSPORT ENAMELS



Finishing new body for a part of Railway Express Agency's fleet of 13,500 vehicles—one of a large single order built by The Gerstenslager Co., Wooster, Ohio, and finished with Sherwin-Williams KEM TRANSPORT Enamel to exacting specifications.

Bodies by Gerstenslager for Railway Express fleet get "swift, sure" finish

Railway Express Agency's sleek new trucks promise—and deliver—"Safe, Swift, Sure" service. Exacting specifications for the finish on the new bodies, calling for KEM TRANSPORT Enamel, help maintain their record for on-the-job dependability.

Railway Express Agency is just one of many national fleet operators who approve or specify Sherwin-Williams KEM TRANSPORT Enamels for original equipment, through leading body builders like The Gerstenslager Co., or for their own refinishing.



Result: longer intervals between repaints . . . shorter lay-ups when repainting is needed, due to Kem Transport's faster drying time. Ask for proof from your Sherwin-Williams Automotive Jobber, or write The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio. (In Canada: 2875 Centre St., Montreal. Export Sales, Newark 1, New Jersey.)



SHERWIN-WILLIAMS
AUTOMOTIVE FINISHES



Looks hard work...

Isn't

In a matter of seconds, without fuss, Ausco Hydraulic Jacks raise their loads—if the lift is extra high, Hi-Range models handle it easily.

This is not a grunt and groan operation. The lift is smooth and easy, thanks to Ausco's exclusive design features.

Ausco engineering, with close attention to detail, produces jacks with forward-looking features that reduce your down time.

Let Ausco-engineered muscles take the load!

AUSCO

Jacks



AUTO SPECIALTIES MFG. CO., INC.
St. Joseph, Mich., other plants in Benton Harbor
and Hartford, Mich., Windsor, Ont., Canada.

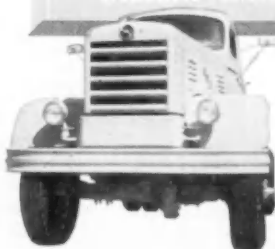
WHAT DO YOU WANT IN A HEAVY-DUTY TRUCK?

YOU'LL FIND IT IN FWD!

You have your own set of heavy-duty truck requirements because every fleet is different. Your check-list might include: Roadability, speed, traction in rough terrain, maximum payload potential, power take-off or other special features—any combination of these and at least a dozen other important features.

Whatever your requirements, you should take a profit-conscious look at the new line of FWD trucks just now hitting the highways and work-roads. They're a new generation . . . borrowing proudly from their pioneer history, but bringing a new competitive spark with their speed, comfort and roadability.

Even if you've never considered Four Wheel Drive for your truck needs, you should do so now. See your dealer or call FWD collect!



INDUSTRIES THAT DEPEND ON FWD HEAVY-DUTY TRUCKS

HIGHWAY CONSTRUCTION
FIRE ENGINES AND AERIALS
OIL WELL EXPLORATION
UTILITY LINE CONSTRUCTION
ROAD MAINTENANCE
OIL WELL SERVICING

UTILITY LINE MAINTENANCE
PETROLEUM TRANSPORT
TRACTORS
LOGGING AND MINING
PIPELINE HAULING, LAYING
FREIGHT TRANSPORT TRACTORS
SUGAR CANE TRANSPORT

CRANE CARRIERS
CRASH TRUCKS
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SNOW REMOVAL
READY-MIX CONCRETE
MUNICIPAL SANITATION



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CLINTONVILLE, WISCONSIN • Canadian Factory, KITCHENER, ONTARIO